

LEATH & ROSS'S HOMŒOPATHIC PHARMACIES, 9 VERE STREET, W., And 5 ST. PAUL'S CHURCHYARD, E.C., LONDON.

Those desirous of
BECOMING AGENTS
are requested

ESTABLISHED 1835.

To apply at

9 VERE STREET,
Wholesale Department.

Our Agents'
GLASS-TOP SHOW CASE,
As it appears open.



TRADE PRICE £4 4s.
CONTENTS REALISE £7 1s. 6d.

THE NEW FAMILY CHEST
Contains 28 Bottles of the most
useful Homœopathic Medicines,
a Guide, giving the treatment of
all common complaints, the uses
of the Medicines, proper doses,
&c. In the lid are the two ex-
ternals most in use, viz., Arnica
and Calendula. It can be fitted
to hold either Pilules or Tinctures.
Price 25/-; trade price, 16/8.

LEATH & ROSS'S WHOLESALE PRICE LIST OF MEDICINES, ETC., PUT UP READY FOR SALE.

LOBULES—Medicated any strength up to the 30th potency.

Sixpenny Tubes, 3/- per dozen.

Ninepenny " 4/6 "

Shilling " 6/- "

TINCTURES—Any strength up to the 30th potency.

Sixpenny Bottles, 3/- per dozen.

Ninepenny " 4/6 "

Shilling " 6/- "

PILULES—Medicated to any strength up to the 30th potency

Sixpenny Bottles, 3/- per dozen.

Ninepenny " 4/6 "

Shilling " 6/- "

TRITURATIONS—

Sixpenny Bottles, 4/- per dozen.

Ninepenny " 4/6 "

Shilling " 6/- "

EXPORT ORDERS ARE DESPATCHED WITH THE GREATEST PROMPTITUDE.

Special quotations for large quantities.

LEATH & ROSS'S PROPRIETARY ARTICLES.

CHLORINE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.

CHLORALIN LINIMENT, 1/1½, 2/9 ... 9/6, 22/.

CHLORALIN MUR. QUININE, or PICK-ME-UP ... 9/6, 22/.

TINCTURE, 1/1½, 2/9 ... 9/6, 22/.

CHLORINE, 1/, 1/6, 2/6 ... 8/, 12/, 20/.

CHLORINE TOOTH TINCTURE, 1/, 1/6, 2/6 ... 8/, 12/, 20/.

NEURALINE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.

GLYKALINE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.

ODONTALGIC ESSENCE, 1/1½, 2/9, 4/6 ... 9/6, 22/, 36/.

OZONIZED OIL, 1/, 1/6, 2/6 ... 8/, 12/, 20/.

HAIR RESTORER, 1/6, 2/6, 4/6 ... 12/, 20/, 36/.

Agents' Counter Cases, £2/2/0, £3/3/0, £4/4/0, £6/6/0, and £10/10/0.

LEATH & ROSS, LONDON.

CAUTION.—*Vaseline differs from any other Preparation of Petroleum.*

VASELINE is not a distillate. It is not wax mixed with oil, or an admixture of Paraffin, but it is the pure jelly of Petroleum itself highly concentrated.

VASELINE is the **only** preparation of Petroleum which is perfectly harmless when introduced into the system.

VASELINE is absolutely free from taste and odour.

VASELINE does not crystallise, oxidise, or become rancid, and, unlike all other products from Petroleum, after being liquefied, regains all its primitive properties on cooling.

OINTMENTS made with Vaseline have a softness and beauty not attained with other bases.

VASELINE has no rival as an emollient, as it is the only substance which under any conditions will not irritate the skin.

To prevent adulteration with paraffin wax, etc., and to ensure the Profession obtaining the genuine article we beg them to order it in our packages.

Imitations of Vaseline may be distinguished by their taste, odour, and by their grainy or crystalline structure, particularly after being melted and cooled.



The following standard Ointments, compounded with Vaseline as a base, will be found superior to any others. They can be kept without deterioration until used up.

FORMULA OF VASELINE OINTMENTS.

- A. **UNGUENTUM HYDRARGYRI.**—Mercury, 24 ounces; Vaseline Cerate (yellow), 24 ounces (Troy).
 - B. **UNGUENTUM ZINCI OXIDI.**—Oxid of Zinc, 1 ounce; Vaseline Ointment, 5 ounces (Troy).
 - C. **UNGUENTUM HYDRARGYRI NITRATIS.**—Mercury, 1½ ounces; Nitric Acid, 2 ounces; Vaseline Cerate (yellow), 21½ ounces (Troy).
 - D. **CERATUM RESINÆ.**—Resin, 10 ounces; Vaseline Ointment, 20 ounces (Troy).
 - E. **CERATUM PLUMBI SUBACETATIS.**—Solution of Subacetate of Lead, 2 fluid ounces; Vaseline Cerate (white), 12 ounces (Troy); Camphor, 30 grains.
 - F. **POMAT. CAMPHORATUM F.R.**—Camphor, 3 ounces; Vaseline Cerate (white), 2 ounces; Pure Vaseline (white), 8 ounces (Troy).
 - G. **CERATE SIMPLEX** (White).—White Wax, 1 ounce; White Vaseline, 2 ounces.
- Put up in 1 lb. Jars. Price 2s. 6d. per Jar.

MANUFACTURED ONLY BY THE

CHESEBROUGH MANUFACTURING COMPANY
(NEW YORK),

41 HOLBORN VIADUCT, LONDON, E.C.

Important Notice to the Wholesale Trade.

J. Hart & Son,

Sponge Importers,

55^a, Houndsditch,

*and at London,
Greece and Turkey.*

We, buying our Sponges direct from the Fishermen, are enabled to offer the finest selection of Honeycomb and Turkey Cups and Solids it is possible to obtain, at prices lower than any other house in the trade.

The Sponges we send out are entirely free from Sand "but not washed."

Goods ordered by post can be returned if not approved of.

Two thousand cases to select from.

ARNOLD & SONS'

"DESIDERATUM," OR KNIFE & FORK COMBINED.

Suggested by DR. J. C. HOGAN, M.B.

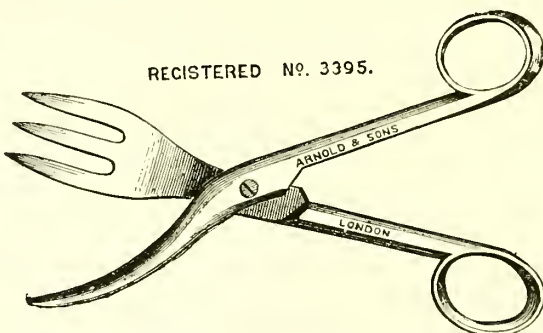
PRICE:

Nickel-plated for
Right or Left

Hand,

15s.

REGISTERED No. 3395.



PRICE:

Nickel-plated for
Right or Left

Hand,

15s.

This Instrument supplies a want long felt by those who only have the use of one hand, either from Amputation, Paralysis, Accident, or otherwise.

Extract from THE LANCET, March 12th, 1881 :—"The Instrument of which the enclosed is an illustration (and which I have named 'The Desideratum' for the purpose of registration) was invented by me to obviate as far as possible the awkwardness and inconvenience attendant on the eating of their meals by persons deprived of the use of either arm." Extract from the BRIT. MED. JOURNAL, March 19th, 1881 :—"It is on the principle of the shears being formed of a fork and cutting blade, which enables the person using it to divide at will and raise his or her food." Extract from the MED. PRESS AND CIRCULAR, March 16th, 1881 :—"It can be had to suit either the right or left hand, and with or without an indentation (which acts as a tooth) on the fork edge." Extract from M^r. D. TIMES AND GAZETTE, March 19th, 1881 :—"Messrs. Arnold & Sons, of West Smithfield, have most intelligently carried out my design."

Sole Manufacturers : ARNOLD & SONS, Instrument Makers,

By Appointment to Her Majesty's Government, St. Bartholomew's Hospital, and the Principal Provincial and Colonial Hospitals, &c.,

35 and 36 WEST SMITHFIELD, LONDON, E.C.

COBDEN'S PILLS
(QUININE & PHOSPHORUS)
2/9 & 4/6
THE BEST NERVE TONIC
SUSSEX DRUG CO. BRIGHTON.

KEMP'S ARSENIC & GLYCERINE COMPO

(A Concentrated Fluid Sheep Wash).

For Killing Fags, Lice, and all Parasites on Sheep and Lambs. Only requires mixing with cold water. Contains the active principle of the non-poisonous Dips, combined with Arsenious Acid. This Dip is largely sold by Chemists throughout the Eastern and Midland Counties, and the Proprietor is now appointing further Agents for the coming season. Put up in One Gallon and Half-Gallon Oblong Tins, retailing at 5s. and 2s. 6d. Wholesale terms are 30 per cent. off Retail Prices, 5 per cent. extra for Cash; Carriage Paid. Circulars, with Agents' Name, liberally supplied, also a Free Postal Distribution of the same in Agent's District. Chemical Report, Testimonials from Farmers and Chemists, &c., free on application to the Manufacturer,

WILLIAM KEMP, Manufacturing Chemist, HORNCASTLE.

SOFT SOAP,

Good quality, 9. per firkin; for Six or more, 8 9 per firkin

ADDRESS AS ABOVE.

NOTICE IS HEREBY GIVEN that Mr. S. E. NUTMAN, of 2 Applegate Street, Leicester, has rendered the under-mentioned APOLOGY to Messrs. E. CRAWSHAW & CO., Dye Manufacturers, of No. 80 Fann Street, Aldersgate Street, in the City of London :—

"To Messrs. CRAWSHAW & Co.,

"Fann Street, London,

"Dye Manufacturers.

"I regret having printed and published a show card which can in any way be deemed a colourable imitation of the one designed and registered by yourselves, referring to your manufacture of Dyes, and I assure you I have destroyed all I had on hand; and I undertake not to further print, publish, or use the show card you have complained about.

"Dated this second day of February, 1881.

"(Signed) SAML. E. NUTMAN."

Also that any person infringing the said trade mark, or printing, publishing, or using any colourable imitation of the said show card, will be prosecuted with the utmost rigour of the law.

Dated this first day of March, 1881.

JAPHETH TICKLE,

3 Lawrence Lane, Cheapside, London,

Solicitor to the said Messrs. E. Crawshaw & Co

PRIZE MEDAL,



LONDON, 1862.

NOTICE TO THE TRADE.

JANUARY, 1881.

PRIZE MEDAL,



PHILADELPHIA, 1876.

LOW'S FLOWER EXTRACTS, &c.,

ARE NOW REDUCED IN PRICE, AS BELOW:—

	per lb.		per lb.		per lb.
Ext. Cassie	9/6	Ext. Rezeda	9/6	Ext. Tubereuse	9/6
„ Jasmin	9/6	„ Rondeletia	8/-	„ Violet	15/-
„ Jonquil	9/6	„ Rose	9/6	„ Verbena	8/-
„ Lily of the Valley ...	9/6	„ Rose Geranium ...	9/6	„ White Rose	10/6
„ Magnolia	9/6	„ Spring Flowers ...	9/6	„ White Lilac	9/6
„ Orange Flower ...	9/6	„ Stephanotis	9/6	„ Wood Violet	13/6
„ Patchouli	9/6	„ Sweet Briar	9/6	„ Wild Rose	9/6
„ Queen of the Alps ...	9/6	„ Tea Rose	9/6	„ Ylang Ylang	9/6

These Extracts have always had the highest reputation; they are all of our own manufacture, are guaranteed **pure**, and of **triple strength**, and will compare favourably with any in the Trade.

T.B.—Owing to the failure of the **VIOLET** crop, however, this Extract is advanced in price, and will probably go higher still. Purchasers are warned against the spurious Ext. Violets already in the market.

LOW'S COMPOUND PERFUMES,

For Dilution by the Trade, are the Strongest in the Market, viz.:—

ESS. BOUQUET, JOCKEY CLUB, & FRANGIPANNI.

Price 14/- per lb.; or 13/- in Winchester Quarts.

LOW'S NURSERY SOAP.

This Soap is the result of considerable study and many experiments, the object desired being to produce a **soap** that would be **quite neutral**, and thus innocuous to the most tender skin, yet one that would lather freely, and not waste quickly away.

Price 33/- per Gross; or 11/- per doz. Boxes of 4 Tablets.

FAMILY BROWN WINDSOR SOAP,

At 60/- per cwt., Genuine, and Sweetly Perfumed.

This Soap is recommended to the Trade as the best value that can be obtained. Embossed Squares, 6 to lb., and in 14-lb Boxes.

CASH DISCOUNT, 10 PER CENT.

R. LOW, SON & HAYDON,

Perfumers, Toilet Soap Makers, and Brush Manufacturers,

330 STRAND (OPPOSITE SOMERSET HOUSE) LONDON.

TRADE

FOSSILINE

MARK.

A bland, odourless, perfectly pure Hydro-Carbon Jelly, of greater smoothness, firmer consistency, and better appearance than any other Petroleum Jelly.

As a **REMEDIAL AGENT** the properties of **FOSSILINE** are not to be excelled. Physicians have found it invaluable as a basis for Ointments, &c., and as a vehicle for employing the most prized and potent medicines. It is now used in the leading Hospitals in Europe and Canada. It CANNOT GO RANCID, and as an **EMOLLIENT** it is undoubtedly the best yet discovered, being far superior to Glycerine, Cold Cream, or Camphor Balls in softening and healing properties. As a **HOUSEHOLD REMEDY** it is recommended as an application to Burns, Cuts, Bruises, and Sprains, Sunburns, Chilblains, and all other Skin Diseases, and the Bites of Poisonous Insects.

FOSSILINE (SIMPLE)

Sold in Bottles, One Shilling each; 8/ per dozen.

The following preparations may also be obtained:—

SAVAR'S FOSSILINE POMADE

Prevents the hair from falling off, and as a smaller quantity is sufficient for use, it is the most economical Hair Dressing known.

Sold in Three-Ounce Stoppered Bottles, One Shilling each; 8/ per dozen.

Also in Sixpenny Bottles; 4/ per dozen.

SAVAR'S FOSSILINE TOILET SOAP

Highly emollient and economical, the most agreeable Soap.

In Tablets, 6d. each; or in 1/6 and 5/ Boxes; 4/, 13/, and 48/ per dozen.

These Toilet Requisites are exquisitely perfumed with the delicate odours of the

MONTERRAT LIME TREE BLOSSOMS.

SAVAR'S FOSSILINE PLASTER, PATENT,

Generally used in the leading Hospitals as a substitute for other Plasters, it adheres readily without warming, and is easily removed for inspection of wounds or re-dressing, and of great service (spread on Holland or Leatherine) as an application to bed sores.

Sold in Boxes, Ninepence each, or in bulk if required; 6/ per dozen.

SAVAR'S FOSSILINE CORN PLASTERS, PATENT,

Are emollient and cooling, and as they do not require wetting or warming, are easily applied.

In Boxes One Shilling each; 8/ per dozen.

SUBJECT TO THE USUAL DISCOUNT.

Be sure to ask for **FOSSILINE** and Savar's preparations of it, and see that you get them, and not any others SAID TO BE of a similar nature. See that the Trade Mark is on the label.



SOLE PROPRIETORS,

EVANS, SONS & CO.,

56 Hanover Street, Liverpool

EVANS, LESCHER & WEBB,

60 Bartholomew Close, London.

H. SUGDEN EVANS & CO., Montreal, Canada, and Rouse's Point, New York.

OZOKERINE

(REGISTERED).

A New Preparation PERFECT as a BASIS for OINTMENTS, of admirable consistency, bland, emollient, antiseptic, and healing.

CANNOT BECOME RANCID.

"Moderate in price, and deserving a careful trial."—BRITISH MEDICAL JOURNAL.

"A valuable and useful substance, and will in all probability be very largely used."—MEDICAL TIMES AND GAZETTE.

"Will take a high position among our other pharmaceutical preparations."—MEDICAL PRESS AND CIRCULAR.

"Likely to prove useful as a dressing for wounds and excoriations."—PRACTITIONER.

OZOKERINE is a clear, pale yellow, very slightly fluorescent body, composed of hydrocarbons akin to Paraffine in their chemical characters. It has been used with remarkable success as a simple dressing for wounds, its mild and healing properties rendering it peculiarly grateful to the patient.

OZOKERINE is unsurpassed as an *unguent basis*; *unchangeable* in itself, except by the action of the most powerful chemical agents, it preserves other bodies with which it may be incorporated from all tendencies to decomposition. The superiority of *Ozokerine* to lard in this respect cannot be over-estimated.

Each Tin is stamped on the lid with the words "**FIELD'S OZOKERINE, REGISTERED**," without which none is genuine.

Made only by J. C. & J. FIELD.

The Price Reduced to 1s. per lb. in 1 lb. Tins, and 11d. per lb. in 7 lb. Tins.

To be obtained of all Wholesale Houses in the United Kingdom and the Colonies.

NEW REMEDY.

ANTISEPTIC, CAUSTIC, HÆMOSTATIC,
DISINFECTING, PRESERVING, &c.

Resorcinum puriss Medicinale "Andeer."

Manufactured by

Messrs. HOFMANN & SCHOETENSACK,
of Ludwigshafen a/ Rhine,

after Dr. Andeer's method.

Sole British and Colonial Agents,

LAMBERT & MORRISON, 2 Fen Court, E.C.

GUSTAV BOEHM'S TRANSPARENT GLYCERINE SOAP,

In 2d., 3d., 4d., 6d., and 1s. Tablets, and 6d. and 1s. Bars.

The first Soap of this description introduced into England at a moderate cost to meet the public requirements, and for purity, delicacy of perfume, shape, and size of tablets, still the best in the market.

H. C. BARTLETT, Ph.D., F.C.S., says:—"I have examined and tested several samples of your Glycerine Soap, and find it admirably manufactured from the best materials."

And abundant unsolicited Testimonials can be cited from such high-class papers as "London Medical Record," "London Sanitary Record," &c., speaking in the highest terms of its superiority over all others.

Original Importers and Sole Wholesale Agents for the Manufacturer,

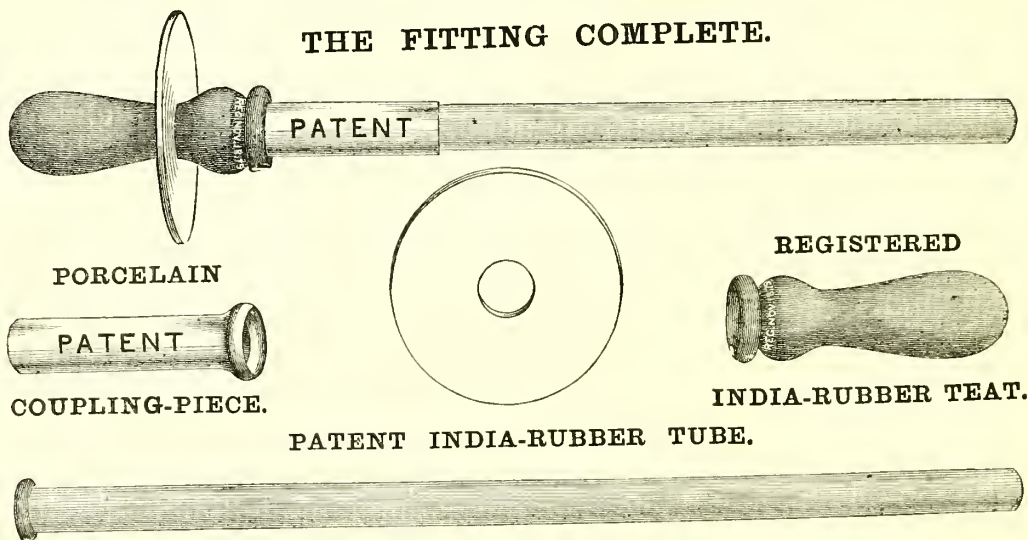
WEINTRAUD, JOYCE & CO.

18 ALDERMANBURY, LONDON, E.C.

S. MAW, SON & THOMPSON'S IMPROVEMENT IN FEEDING BOTTLES.

Patented in England, December 4, 1879;
Patented in the United States, April 27, 1880.

THE FITTING COMPLETE.



Patent India-rubber Tubes, in $\frac{1}{2}$ gross and 1 gross Boxes—

9 inch White ...	per gross, 10/6	9 inch Black ...	per gross, 15/-
10 " " super ...	16/	10 " " ...	16/-

Registered India-rubber Teats, in 1 doz. Boxes—

2 Sizes (Small and Medium), per gross, White, 8/ & 14/; Black, 12/ & 21/-

Patent Coupling-pieces, in 3 doz. Boxes per gross, 8/-

S. MAW, SON & THOMPSON beg to inform the Trade that in future all their Feeding Bottles, except Sixpenny, will be fitted with the above **PATENTED IMPROVEMENT**, unless ordered to the contrary.

The improvement consists in the introduction of the New Registered Teat, and in the construction of the Coupling-piece, the latter **passing over** the **exterior** of the India-rubber Tube, by which arrangement injurious contraction is avoided, and the cleaning of the Tube facilitated, a Tube Brush being easily passed through without the removal of the Coupling-piece.

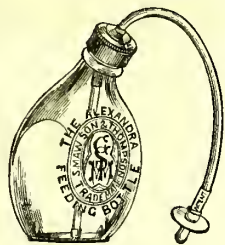
In the fitting-up of ordinary Feeding Bottles, the Shield fixes the Teat upon the Union Joint, preventing its easy removal, and making it difficult to replace the Teat in its air-tight position, without which the action of no Feeding Bottle is perfect. The New Registered Teat is so formed as to receive the Shield and retain it in position without connection with the Coupling-piece, the Teat thus being easily removed and replaced without damage.

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

S. MAW, SON & THOMPSON, LONDON.

S. MAW, SON & THOMPSON'S

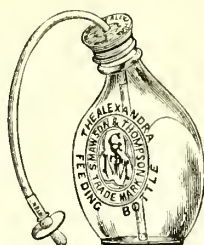
FEEDING BOTTLES.



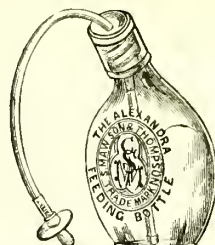
Alexandra Feeding Bottle,
Screw Metal Caps,
11/ per doz.



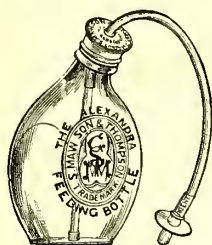
Alexandra Feeding Bottle,
Gilt Porcelain Cap,
20/ per doz.



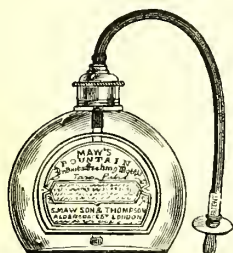
Alexandra Feeding Bottle,
Earthenware Cap,
10/ per doz.



Alexandra Feeding Bottle,
Screw Glass Stopper,
10/3 per doz.



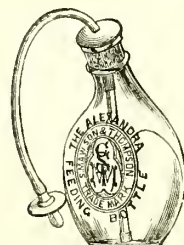
Alexandra Feeding Bottle,
Earthenware Cap,
7/6 per doz.



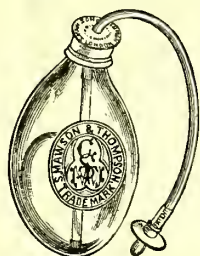
Fountain Feeding Bottle,
Pure Tin Mount,
20/ per doz.



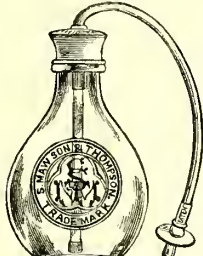
Fountain Feeding Bottle,
Pure Tin Mount,
12/ per doz.



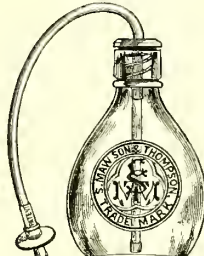
Alexandra Feeding Bottle,
Wood-Top Cork,
3/9 per doz.



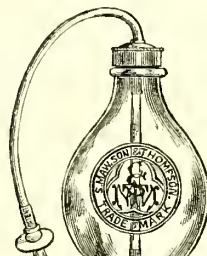
Oval Feeding Bottle,
Earthenware Cap,
7/6 per doz.



Export Feeding Bottle,
Earthenware Cap,
7/3 per doz.



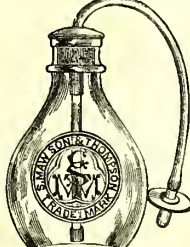
Export Feeding Bottle,
Screw Glass Stopper,
7/6 per doz.



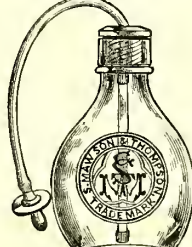
Export Feeding Bottle,
Screw Metal Cap,
8/6 per doz.



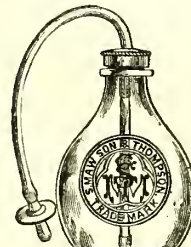
Export Feeding Bottle,
Metal Cap,
4/3 per doz.



Export Feeding Bottle,
Wood-Top Cork,
3/6 per doz.



Export Feeding Bottle,
Screw Glass Stopper,
4/3 per doz.



Export Feeding Bottle,
Screw Metal Cap,
4/6 per doz.

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

FOR FURTHER PARTICULARS SEE QUARTERLY PRICE CURRENT, PAGES 53, 54.

S. MAW, SON & THOMPSON,
7 to 12 Aldersgate Street, London.

S. MAW, SON & THOMPSON'S REGISTERED INDIARUBBER RING TEAT HOLDER,

FOR FITTING ROUND THE NECK OF FEEDING BOTTLES.

Registered January 21, 1881.

3/6

IN ONE DOZEN BOXES,

Per Doz.

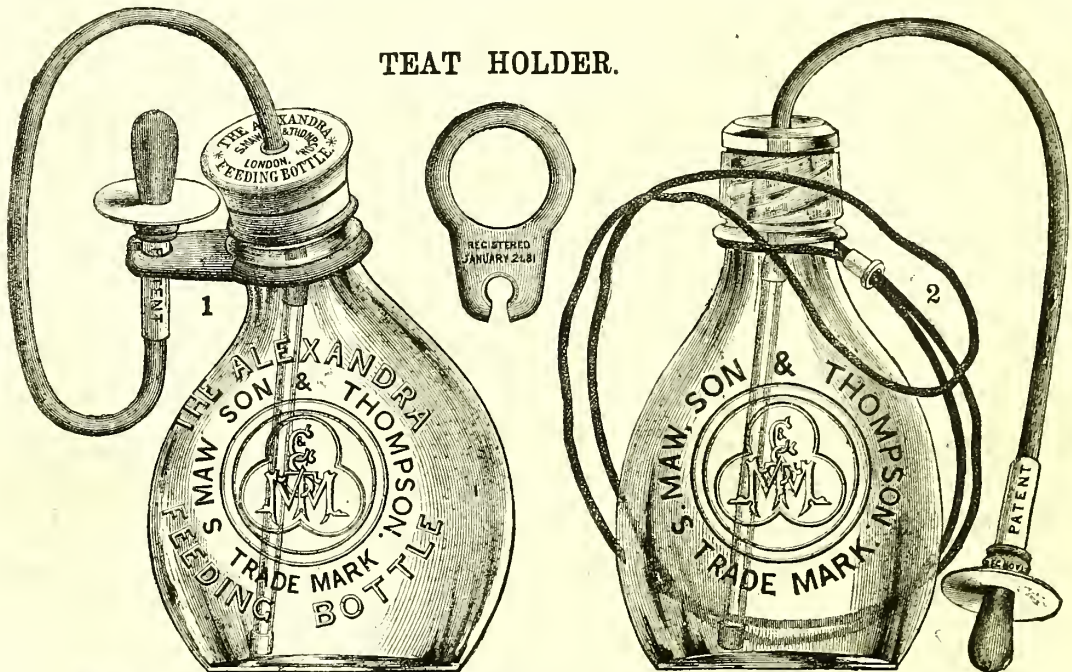
EACH IN A BOX.

3/6

Per Doz.

A useful contrivance in the feeding of Infants for holding the Teat, and preventing the Milk from dropping about. The Ring, being Elastic, can be easily slipped over the projection in the neck of the Bottle, and need not be removed.

TEAT HOLDER.



**MAW'S PATENT ALEXANDRA
FEEDING BOTTLE.**

Showing the Teat Holder.

**MAW'S PATENT EXPORT
FEEDING BOTTLE.**

Showing the Silk Cord.

SILK CORDS FOR NURSES

FOR SUSPENDING FEEDING BOTTLES ROUND THE NECK.

In 1-dozen Boxes, each in a Box, per dozen, **3/6**.

DIRECTIONS.—Slip the Cord over the projection in the neck of the Bottle, and tighten with the adjusting slide.

Special Quotations to Wholesale Buyers.

ROWLAND'S TOILET ARTICLES,

20 Hatton Garden, London,

Have been known for the last 80 years all over the world, and being well advertised, and always finding a ready sale, are well worthy the attention of Chemists, Druggists, and Storekeepers.



ROWLAND'S MACASSAR OIL

Is universally held in high repute for its unprecedented success during the last 80 years in promoting the growth, restoring, improving, and beautifying the human hair. It prevents hair from falling off or turning gray, strengthens weak hair, cleanses it from sebum and dandruff, and makes it beautifully soft, pliable, and glossy. For children it is especially recommended, as forming the basis of a beautiful head of hair, while its introduction into the nursery of Royalty is a sufficient proof of its merits. Sizes, 3s. 6d., 7s., 10s. 6d. (equal to four small), and 21s. per bottle.



ROWLAND'S KALYDOR

Is a most refreshing preparation for the Complexion, dispelling the cloud of languor and relaxation, allaying all heat and irritability, and immediately affording the pleasant sensation attending restored elasticity and healthful state of the skin. Freckles, Tan, Spots, Pimples, Flashes, and Discoloration fly before its application, and give place to delicate clearness, with the glow of beauty and of bloom. In cases of sunburn, or stings of insects, its virtues have long been acknowledged. Price 4s. 6d and 8s. 6d. per bottle.

ROWLAND'S ODONTO

Or PEARL DENTIFRICE is of inestimable value in preserving and beautifying the teeth, strengthening the gums, and giving a pleasant fragrance to the breath; it eradicates tartar from the teeth, prevents and arrests decay, and polishes and preserves the enamel, to which it imparts a pearl-like whiteness. Its unprecedented success for more than half a century shows the universal favour in which it is held, while the fact of its being entirely free from any acid or mineral ingredients constitutes it the safest and purest tooth powder ever used.

ROWLAND'S EUKONIA

Is a new and fragrant Toilet Powder, specially recommended to ladies. Each box has inside the lid a certificate of purity from Dr. REDWOOD, Ph.D., F.C.S. 2s. 6d. per box.

IMPORTANT CAUTION.—To protect the public from fraud, ALL ROWLAND'S ARTICLES have on the WRAPPER their SIGNATURE, "A. ROWLAND & SONS," in red ink; the genuine Kalydor has a 6d. Government stamp across the stopper, and the genuine Odonto a 3d. Government stamp across the box. Buy only ROWLAND'S articles, of 20 HATTON GARDEN, LONDON.

COUNTER BILLS, SHOW CARDS, &c., CAN ALWAYS BE HAD ON APPLICATION.

SILVER MEDAL,



PARIS, 1878.

THE

Tin-Plate Decorating Co.,

MANUFACTURERS OF THE NEW

CRYSTALLIZED TIN BOXES,

FOR TOILET AND OTHER PURPOSES.

GOLD MEDAL,



SYDNEY, 1879.

SEAMLESS DECORATED TIN BOXES,

Suitable for Blacking, Polishing Paste, Tooth Powder, Pomade, Pills, Lozenges, &c.

DECORATED TIN CANISTERS,

For Disinfectant Powder, Baking Powder, &c., &c., &c.

WORKS: NEATH, SOUTH WALES.

THE NEW SEAMLESS TIN BOXES,

In Crystallized, Decorated, or Plain Tin Plates, suitable for Blacking, Polishing Paste, Tooth Powder, Plate Powder, Pomade, Lozenges, &c., &c.

PICE AND BISCUIT BOXES, COFFEE, MUSTARD, AND POWDER CANISTERS,
LIQUID PAINT TINS, &c.

C. SMITH & SONS, ARUNDEL WORKS, SHEFFIELD.

CAUTION.

ROSE'S

LIME JUICE BEVERAGES.

Preserved by a Process under Royal Letters Patent.



MESSRS. ROSE & CO., as the original Manufacturers and Patentees of the LIME JUICE BEVERAGES, prepared from the West India Lime Fruit, now so favourably known as supplying delicious, wholesome Beverages, highly medicinal, preserved without the aid of spirits, beg to caution buyers against the now numerous imitations of these Beverages, more especially of their LIME JUICE CORDIAL, by Rectifiers, Wine Makers, and others. As protection against such, Messrs. ROSE & CO. have adopted Glass-stoppered Bottles, engraved with the Lime Fruit as Trade Mark, specially manufactured for them, and registered (*as represented on margin*)—the Labels also bearing the signature of the Firm. Purchasers are respectfully requested to order ROSE'S LIME JUICE CORDIAL, and other Beverages, *as noted below*, to protect themselves further against such imitations.



L. ROSE & CO.,

REFINERY,
At LEITH, SCOTLAND.

LIME JUICE MERCHANTS AND PATENTEES,
11 Curtain Road, Finsbury,
LONDON.

SOLD EVERYWHERE, BY WINE MERCHANTS, GROCERS, CONFECTIONERS, &c.

ROSE'S LIME JUICE CORDIAL

**ROSE'S LIMETTA GINGER
CORDIAL**

ROSE'S PREPARED LIME JUICE

ROSE'S LIME JUICE CHAMPAGNE

In Water, or in Soda, Potash, and Aërated Waters, supplies a delicious beverage, effectually quenching thirst, cooling and refreshing the system. It will be found particularly agreeable blended with Spirits, supplying a delicious stimulant, equalling the finest Liqueurs, sustaining and invigorating; also forming an excellent substitute for the Lemon as a flavouring in hot drinks, &c.

Is another form of the Lime Juice Cordial, combined with Ginger. Supplies an excellent stomachic. May be drank alone, or in water, or blended with Spirits. As a drink for the *cold season* it will be found particularly agreeable in hot water.

Is the Refined Juice of the Lime Fruit. It is used for the same purposes as the Lemon, to which it is much superior as a medicinal agent, and its acidity considered more agreeable.

This agreeable Sparkling Wine, free from Spirit, and retaining all the valuable medicinal properties of the Lime Fruit, has attained a high position in public estimation, and is highly recommended for its wholesome and medicinal properties. Furnishing a delightful and refreshing draught, it is particularly adapted for the Ball-room, Soirée, and Evening Parties. *In Champagne Bottles, Quarts and Pints.*

NOTE.—As these Beverages are entirely free of Spirit (see Analytical Reports), no Licence is required for their sale.

Recommended by the "Lancet," the "Food Journal," the "Scientific Review," and other eminent Journals, for purity and excellence.

ANALYTICAL REPORTS ON APPLICATION.

MEDICINAL PROPERTIES:—Anti-Scorbutic; beneficial in Rheumatism, Indigestion; and a Purifier of the Blood.

SPECIAL EXPORT TERMS.

The increasing demand for Export of these excellent and eminently wholesome Beverages establishes their success as a shipment to all the warmer latitudes. The LIME JUICE CORDIAL particularly is recommended for such shipment.

L. ROSE & CO., 11 Curtain Road, LONDON.



ROSE'S LIME JUICE BEVERAGES.



WE beg to bring under your notice our **LIME JUICE BEVERAGES**, prepared from the Lime Fruit, possessing its valuable medicinal properties, and preserved by patented process, entirely free of spirit.

These Beverages, since their introduction by us some ten years since, have now a large and increasing consumption in this country, as well as abroad.

The success attending shipments of our **LIME JUICE CORDIAL** especially has been very marked, and we recommend this Beverage to your special notice, as it now forms a very important article of export to all the warmer latitudes. It supplies a delicious effervescing drink in Soda, Potash, or other Waters, and an agreeable stimulant blended with spirits.

Referring to undernoted Price List, Export Discount and Terms may be obtained through your London Agents, or us direct.

Your obedient Servants,

L. ROSE & CO.

TRADE PRICE LIST.

BOTTLED.

PER DOZEN.
BOTTLES INCLUDED.

Rose's Lime Juice Cordial	...	...	...	...	...	14s. 0d.
Rose's Limetta Ginger Cordial	...	...	...	...	...	15s. 0d.
Rose's Lime Juice Champagne	...	...	...	...	...	15s. 0d.
Rose's Prepared Lime Juice	...	...	...	...	...	12s. 0d.

In elegant Glass-Stoppered Bottles—as represented above—engraved with the Lime Fruit.

Packed in strong 1 dozen Cases charged 1s. each.

IN CASK OR JAR.

PER GALLON.

Rose's Lime Juice Cordial	...	...	...	...	...	5s. 0d.
Rose's Prepared Lime Juice	...	...	...	...	...	4s. 6d.

JARS 1s. PER GALLON EXTRA.

CASKS—Quarters, 13s.; Hogsheads, 16s.; Puncheons & Pipes, free.

PERFECT PRESERVATION AND CONDITION GUARANTEED.

[SEE OTHER PAGE.]

DENNEHY'S

LIME JUICE CORDIAL

OR

SYRUP.

RICH, BRILLIANT, DELICIOUS.

In Casks, } Per Gallon. In Puncheons. 3s. { Hhds,
3s. 6d. } 3s. 3d.

F.O.B. EXPORT SHIP.

W. DENNEHY & CO., St. John Street, DUBLIN,

A.D. 1787.

IRELAND.

A.D. 1787.

Cash or Reference required with all Export Orders.

RAYNER'S

ORIGINAL

LIME FRUIT SYRUP.

THE PRODUCT OF THE WEST INDIAN LIME FRUIT.

THIS is now recognised as the best Lime Juice preparation in the market. It is a delicious Syrup, most cooling and refreshing in its character, perfectly divested of the musty flavour so objectionable in these preparations generally. For Home or Export Trade it is equally well adapted, as it keeps for any length of time, always gives satisfaction, and commands a large sale wherever it is introduced.

It is an excellent adjunct to Spirits in mixing, imparting a most grateful and improved flavour.

On account of its entire freedom from alcohol it is extensively used in Temperance Hotels, and by the advocates of temperance principles throughout the kingdom.

Mineral Water Manufacturers will find it well suited for making Lime Juice Champagne.

Extract from "THE LANCET," May 8th, 1880.

"This is not unfairly described on the label as 'a real Summer Luxury.' The genuine Lime flavour cannot be mistaken. Perfectly bright, it forms an excellent summer drink, either with plain or aerated waters. It is needless to say that such a drink is very wholesome. It is highly popular with children, for whom, as well as for adults, it is very well suited."

In Champagne Bottles 12/- per dozen 12 dozen, 11/- net.

In Half do. do. 8/- per dozen 12 dozen, 7/4 net.

Also in Bulk, at 5/- per gallon. Wholesale quantities, 4/6 per gallon.

SOLE MANUFACTURERS AND PROPRIETORS,

RAYNER & CO., FARRINGTON ROAD, LONDON, E.C.

Energetic Agents Wanted Everywhere.

THE MONTSERRAT COMPANY, LIMITED,

LIME-FRUIT
JUICE.



LIME-FRUIT JUICE
CORDIALS.

ALL GUARANTEED FREE FROM ALCOHOL.

THE MONTSERRAT LIME-FRUIT JUICE,

In Imperial Quarts, Retail, 2/6 each, 22/- doz.; Imperial Pints, Retail, 1/4 each, 12/- doz.

(In bulk, 4/- per gall., or 12 galls. 3/6 to account. Special quotations for casks on application.)

MONTSERRAT LIMETTA, OR PURE LIME-FRUIT JUICE CORDIAL,

In Bottles, Retail, 1/6 each, 14/- dozen; Half Bottles, Retail, 1/- each, 9/- dozen.

AROMATIC MONTSERRAT,

This is made from the Montserrat Lime-Fruit Juice, combined with Aromatics.

In Bottles, Retail, 1/9 each, 17/- dozen; Half Bottles, Retail, 1/- each; 10/6 dozen.

MONTSERRAT CLOVE CORDIAL,

MONTSERRAT JARGONELLE CORDIAL,

MONTSERRAT PEPPERMINT CORDIAL,

MONTSERRAT PINE-APPLE CORDIAL,

MONTSERRAT RASPBERRY CORDIAL,

These are so flavoured, as indicated, as to form most agreeable and refreshing Beverages, either alone or diluted with water, and especially Aërated Waters. They can also be blended with Spirits.

In Bottles, Retail, 2/- each, 20/- dozen.

MONTSERRAT QUININE CORDIAL.

This is a combination of pure Quinine and Montserrat Lime-Fruit Juice cordialised by the addition of Aromatics. It is cheaper than Quinine Wine.

In Bottles, Retail, 2/- each, 20/- dozen.

MONTSERRAT SARSAPARILLA CORDIAL,

Prepared with Montserrat Lime-Fruit Juice and finest Jamaica Sarsaparilla, so combined as to contain the full medicinal qualities of both.

In Bottles, Retail, 2/- each, 20/- dozen.

MONTSERRAT LIME-FRUIT BITTERS,

Prepared so as to maintain all the well-known fragrance of the Lime Fruit, and forming a splendid Tonic Bitters.

As a protection against imitations, our Trade Mark (as Sole Consignees of the Montserrat Company, Limited), as above, is on the Capsule and Label of each Bottle of Lime-Fruit Juice and its Preparations.

EVANS' LEMON JUICE,

Bottles (6 to the gallon), Retail, 1/3, 10/6 dozen.

TERMS.—Packed in cases of 3 dozen and 1 dozen each, and in quantities of 12 dozen pints (or half bottles), or 6 dozen quarts (or bottles). We allow 20 per cent. discount cash in 14 days, packages free. Carriage paid to any Railway Station in England or Wales, or to any port in Scotland or Ireland to which there is direct Steamer communication from Liverpool. Smaller quantities to usual extent.

SOLE CONSIGNEES OF THE MONTSERRAT COMPANY—

EVANS, SONS & CO., LIVERPOOL; EVANS, LESCHER & WEBB, LONDON;

H. SUGDEN EVANS & CO., Montreal, Canada; and Rouse's Point, NEW YORK.



SAVARS' PROPRIETARY SPECIALITIES.



SAVAR'S ANIMAL SOAP (NON-POISONOUS).

For Washing Dogs and other Domestic Animals. 6d. Packets; 3s. 9d. doz.

SAVAR'S BREAST EXHAUSTERS.

Fitted with the Latest Improvements. 1s. each; 7s. 6d. and 8s. 6d. per doz.

SAVAR'S CAMPHOR CASKETS.

—Prevent Infection and relieve Catarrh. 6d. and 9d. each; 3s. 6d. and 6s. per dozen.

SAVAR'S CARBOLIC ACID SOAP.

—For Domestic Use. Superior quality (containing 8 per cent. of Acid). 6d. per lb.; 4s. 6d. per dozen.

SAVAR'S CHEST PROTECTORS.

Manufactured from best materials. 1s. to 5s. each; 7s. to 45s. per dozen.

SAVAR'S COAL TAR SOAP.

—Prepared from an Original Formula; a most elegant and agreeable Toilet Disinfectant. In Tablets, 4d. and 6d. each; 2s. 9d. and 3s. 9d. per dozen.

SAVAR'S COLD CREAM.

—Delicately Perfumed with Otto of Roses. Pots, 6d. and 1s. each; 3s. 9d. and 7s. per dozen.

SAVAR'S CORN AND BUNION PLASTERS.

Best White Felt. 6d. Boxes, 2s. 3d., 2s. 10d., 2s. 8d., and 3s. 6d. per dozen Boxes; and in bulk, 1s. 8d. to 5s. 6d. per gross.

SAVAR'S FEEDING BOTTLES.

These Feeding Bottles are fitted with the best quality of Materials, and are acknowledged by all to be superior to any others offered at the same prices.



FIG. 1.

May be had either as FIG. 1 or FIG. 2, fitted with White Indiarubber Tubing and Teats, or with Native Black Indiarubber Tubing and Teats.

Retail, 6d., 1s., and 2s. each; 3s. 6d., 4s., 7s. 6d., 8s. 6d., and 17s. per dozen.

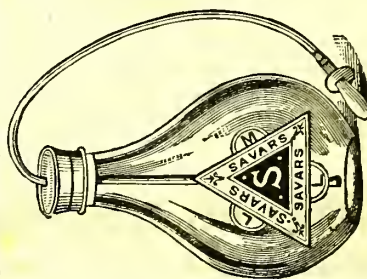


FIG. 2.

SAVAR'S FLORAL POMADES.

Bottles; 8s. and 4s. per dozen

SAVAR'S FLY PAPERS.

—For the Destruction of all kinds of Insects. The Cheapest and most Effective made. 15s. per 1,000.

SAVAR'S FOSSILINE CORN PLASTERS.

—Easily applied. Superior to any others. Boxes, 1s. each; 8s. per dozen.

SAVAR'S FOSSILINE PLASTER.

—Highly recommended by the Medical Faculty as superior to other Plasters. Boxes, 9d. each; 6s. per dozen.

SAVAR'S FOSSILINE POMADE.

—Prevents the Hair Falling Off. The most Economical Pomade. Bottles, 1s. and 6d. each; 8s. and 4s. per dozen.

SAVAR'S FOSSILINE TOILET SOAP.

—Highly Emollient. 6d. Tablets, 1s. 6d. and 5s. Boxes; 4s., 13s., and 48s. per dozen.

SAVAR'S "GOOD SAMARITAN" PATENT POROUS PLASTERS.

Adhere readily, and are manufactured from the best materials—free from Indiarubber, BELLADONNA, CARBICUM, or STRENGTHENING, 4d. each; Belladonna and Capsicum, 27s., Strengthening, 24s. per gross.

SAVAR'S "GOOD SAMARITAN" PROTECTORS (NEW SHAPE).

Effectually Cover Chest and Back. 2s. 6d. to 7s. 6d. each; 21s. to 63s. per dozen.

SAVAR'S PERFUMERY.

—The most lasting and agreeable. 6d. and 1s. Bottles; 4s., 8s., and 8s. 6d. per dozen.

SAVAR'S POROUS MARGINAL PLASTERS, ON LEATHER.

BALSAMIC, BELLADONNA, CAPSICUM, RHOBARB, &c., all shapes, far superior to any other kind of Marginal Plaster.

SAVAR'S TOILET SOAPS.

—Brown Windsor, Castille, Curd, Glycerine, Honey, Oatmeal, Transparent Glycerine, &c., delicately Perfumed. In 2d., 3d., 4d., and 6d. Tablets, 1s. Bars, and 1s. Boxes.

SAVAR'S VIOLET POWDER.

—Deliciously Perfumed Starch Powder only. 4-lb. and 4-lb. Packets, 1s. per lb.

The Trade are solicited to state distinctly when ordering that SAVAR'S Articles are required, and are cautioned that each Article is protected with the Trade Mark as above.

Less Ten per cent. Discount, Three Months' Current Accounts. Special Discount to Large Buyers.

A COMPLETE PRICE CURRENT OF DRUGGISTS' SUNDRIES, PROPRIETARY ARTICLES, PATENT MEDICINES, &c., SUPPLIED ON APPLICATION.

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EVANS, LESCHER & WEBB, London.

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BATTERSEA LONDON S.W.

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CONCENTRATED FRUIT ESSENCES & FLAVOURS
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FOR GOLD & SILVER PLATING & PHOTOGRAPHY

LIQUID AMMONIA. 880.

REFINED CAMPHOR

*AND ALL DESCRIPTIONS OF CHEMICALS FOR MEDICAL PHOTOGRAPHIC,
ANALYTICAL AND GENERAL USE*

**MAY & BAKER'S MANUFACTURES MAY BE ORDERED THROUGH
ANY LEADING WHOLESALE HOUSE**

"YOU DIRTY BOY!"

By GIOVANNI FOCARDI.



FROM TRADE LETTERS.

The Broadway, Tunbridge Wells.

"The Statuette has been a brilliant advertisement: my Pharmacy is visited by every one curious to see the "DIRTY BOY." The local press have given it a most flattering notice.

Yours faithfully,

GEORGE CHEVERTON.

Cooper's Effervescing Lozenge Warehouse, Oxford Street, London, W.

"YOU DIRTY BOY" is a never ending amusement: every passer stops to smile.

W. T. COOPER.

"THE DIRTY BOY" is the attraction of the town. It is worth £20 to me as an advertisement alone.

F. FOSTER, Druggist, Scarboro'.

Trade Price of Terra Cotta Reproductions, Delivered in London.

£6 6s.

Height of the figure.	Size of its base. Depth.	Width.
25 in.	17½ in.	13½ in.

"YOU DIRTY BOY!"

By GIOVANNI FOCARDI.

Of the many thousands of varied and beautiful exhibits at the Paris Exhibition nothing has proved so attractive or is so well remembered as this wonderfully realistic Statuette, well named in the pages of "Punch" as "*a souvenir of 1878*," and it will always be associated with this the greatest of all International Exhibitions as the "*pièce de résistance*"—the one thing universally known and admired. There is always some such remembrance of each Exhibition, from 1851 with its "Happy Boy and Unhappy Boy," and 1862 with its "Reading Girl," to this present instance, but in no former case has so extensive a popularity been achieved. The experience it delineates is so common to us all, and the work of the sculptor so thoroughly true to nature, that it at once appeals to the youngest as well as the oldest amongst us. On its pedestal in Paris it was from morning to night surrounded by a crowd representing the people of every nationality, the expression in every face testifying to the skill of the sculptor and the irresistible humour of his subject. It is now well known that this Statuette was a commission in the marble from A. & F. PEARS, Soap Makers to H.R.H. the Prince of Wales, to Signor Focardi, at a cost of £500, for the adornment of their Warehouse, and the Proprietors, at the request of many Connoisseurs and admirers of Art, have caused reproductions to be made in Terra Cotta of about the size of the original marble, which they now offer at the prices annexed. As an attraction for the Wholesale or Retail Warehouse in any business it has never been equalled, for, as Mr. George Augustus Sala has said of it, it arrests the attention of "old and young, gentle and simple;" and it may be safely stated that, displayed as an advertisement and means to popularity, it is the cheapest ever offered, for an expenditure of ten times the amount on newspapers or other advertisement in the public press would fail to produce an equal notoriety in any city or town of the world. On opposite page are a few extracts from among hundreds of criticisms.

A. & F. PEARS,

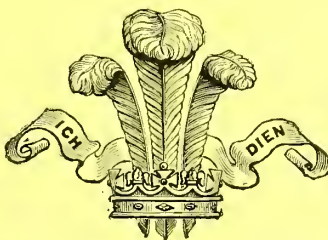
WHOLESALE AND EXPORT

PERFUMERS AND FANCY SOAP MAKERS,

ESTABLISHED 1789,
INVENTORS OF THE

GENUINE TRANSPARENT SOAP.

BY SPECIAL
APPOINTMENT
SOAP MAKERS



TO
H.R.H. THE
PRINCE OF WALES.

PRIZE MEDALS AWARDED.

London, 1851; London, 1862; Paris, 1867; Santiago, 1875; Philadelphia, 1876;
Paris, 1878; Sydney, 1879.

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Factories—LANADRON WORKS, PEARS-VILLE WORKS, and ORCHARD WORKS,
ISLEWORTH, W.



TRADE MARK.

LYNCH & CO.,



TRADE MARK.

DRUGGISTS' SUNDRIESMEN,
SURGICAL INSTRUMENT MAKERS,
SHOP FITTERS,

AND DEALERS IN PROPRIETARY ARTICLES.

SPECIALTIES.

PATENT "EMPRESS" & "ROYAL"
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PATENT FEEDER FITTINGS.

PATENT POISON BOTTLES.

PATENT POWDER FOLDERS.

PATENT TINCTURE PRESSES

CASED COURT PLASTERS.

COTTON WOOL.

CRYSTAL SMELLING BOTTLES.

"CUIRASS" CHEST PROTECTORS.

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TORS.

DEFORMITY INSTRUMENTS.

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ELASTIC STOCKINGS, &c.

FAMILY ENEMAS.

HIGGINSON'S ENEMAS.

GOLDBEATER'S SKIN,
Cased and in Yards.

IMPROVED EAR SYRINGES.

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NEW GRADUATED WINES.

OILED SILK.

"PERFECTION" ENEMAS.

PILL COATERS, "AKESTER'S."

RELIC WOOD COURT PLASTER.

SILICATED BOXES.

SMELLING SALTS,
Watch Shape Bottles.

SPRAY DIFFUSERS.

SPREAD PLASTERS.

SUSPENDERS.

SYRINGES, GLASS AND PEWTER.

THERMOMETERS, CLINICAL, &c.

THROAT PROTECTORS.

TRUSSES.

WATER BATHS.

Full Priced Catalogue sent on application to

LYNCH & CO.,
171a & 171b ALDERSGATE ST., LONDON, E.C.

PIESSE & LUBIN

PERFUMERY MANUFACTURERS

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L O N D O N

DEPÔTS IN ALL THE PRINCIPAL CITIES OF THE WORLD

FLOWER FARMS
AT
MITCHAM SURREY



TRADE MARK:—MUSK DEER

FLOWER FARMS
AT
NICE AND GRASSE

CONCENTRATED



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Lign Aloe
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White Rose
Jockey Club
Ess Bouquet
Rondeletia
Musk
New Mown Hay
Cedrat
Ilang-Ilang
Heliotrope
Meadow Queen

Ipomœa
Wood Violet
Jasmin
Verbena
Australian Wattle
Lilae
Rezeda
Geranium
Stephanotis
Orange Blossom
Patehoul
Tuberose
Hyacinth
Kiss me Quick

Gardenia
Doing the Block
Aee of Hearts
Last Kiss
No one to Love
Right Bower
Lavender
Virgin's Bower
First Love
Kiss Me if you Dare
Think of Me
Kiss Me Sweetly
Piesse's Posy
Mizpah

Be Mine
Kiss Me, Love, again
Never Forgotten
Ask Mamma
Spring Flowers
Millefleurs
Stolen Kisses
Box his Ears
Exeelsior
Helionde
La Duchesse
Jolly Dog
Queen's Favourite
Maréchale

AND A THOUSAND OTHERS

RIBBON OF BRUGES—for sweet fumigation

ALPACA POMADE—in half-pound jars

PESTACHIO NUT TOILET POWDER.—Brownness of the Neck or Arms, undue Redness of the Face and Hands, are obviated by one application of this exquisite discovery. It represses the unpleasantness of sensible perspiration and its disagreeable accompaniments

INK SOLVENT—removes Ink or Iron mould from paper, linen, or the skin, by merely wetting the stains with the solvent

EGG JULEP, or NURSERY HAIR WASH.—This Julep may be used with confidence as an excellent cleanser of the head. Half-pints

COLOGNE DENTIFRICE—prepared from the flowers from which EAU DE COLOGNE is distilled

PESTACHIO NUT OIL.—"The beauty of the Raven Tresses of the Spanish Ladies has excited the admiration of every visitor to Madrid. No other hair-dressing is used but the Oil of Pestachio Nuts"

THE BEST ARTICLES & THE BEST TERMS IN THE TRADE

Full Particulars on application

A CARD

From **LEOPOLD HOFF**, *of Hamburg*
TO THE
DRUGGISTS & CHEMISTS
Of the UNITED STATES of NORTH AMERICA.

MR. LEOPOLD HOFF, having recently opened a place of business in London, avails himself of the American circulation of this issue of *THE CHEMIST AND DRUGGIST*, to convey to the Trade of the U.S. his best thanks for the support accorded to him ever since the year 1866, when he personally introduced the only genuine "HOFF'S MALT EXTRACT" into the United States.

The unrivalled and constantly increasing success of "HOFF'S MALT EXTRACT" in the United States is due to the *superiority** of this article to *all other* similarly named preparations. This superiority has been experienced in the U.S., and is thoroughly appreciated in Europe, not only by men of Science, but by Royalty. As a proof of this, Mr. LEOPOLD HOFF begs to state that in this year alone

His Imperial Highness THE PRINCE CHARLES OF PRUSSIA
(BROTHER OF THE EMPEROR),

His Royal Highness THE PRINCE OF SCHAUMBURG LIPPE,
And His Grace THE DUKE OF SCHLESWIG HOLSTEIN,

HAVE GRANTED SPECIAL APPOINTMENTS TO THE

HAMBURG HOFF'S MALT EXTRACT WORKS,
OF WHICH MR. LEOPOLD HOFF IS PART PROPRIETOR.

THREE MEDALS

were awarded to him last year by European Scientific Institutions in recognition of the **SUPERIORITY** of his **GENUINE HOFF'S MALT EXTRACT**.

Mr. LEOPOLD HOFF will continue to execute the Orders of the

SOLE AGENTS for the Sale of the GENUINE HOFF'S MALT
EXTRACT in the U.S.,

Messrs. TARRANT & CO., of New York,

with the same care and attention as before, and he feels confident that this powerful House, to whose special care and skilful management the large increase of the sales is also due, will undoubtedly make

HOFF'S MALT EXTRACT

as popular in the United States as their own preparation, the renowned

TARRANT'S SELTZER APERIENT.



SPECIAL NOTICE.

Every bottle of the **GENUINE HOFF'S MALT EXTRACT** in the **UNITED STATES** bears the label and name of **Messrs. TARRANT & CO.**, and has the following Special Label—

NONE GENUINE WITHOUT THIS LABEL.



* From the *Medical Times and Gazette* (London), Nov. 9, 1878.

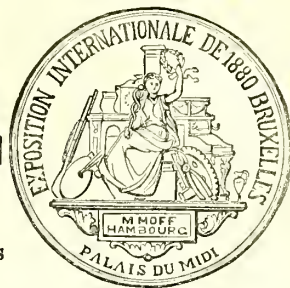
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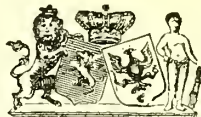
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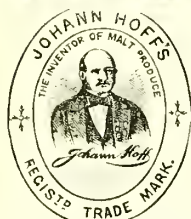
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MR. HINE GILBERT has for Disposal a first-class Business, situated in one of the best positions in most fashionable seaside resort on the South Coast; it has been personally inspected, and can be recommended as sound and genuine; cash requisite, at least £2,000; part can be let off for a term at a profit rental of £165 per annum, leaving the whole of the business premises intact. Personal application, if possible, is solicited, at his offices, 17 Hart Street, Bloomsbury Square, any morning.

DRUG, OIL, AND DRYSALTERY, to be Disposed of; good thoroughfare, thickly populated neighbourhood in Manchester; well fitted up; large roomy premises (shop, 9 yards by 4 yards); rent £44; long lease; returns over £500 for 12 months up to March quarter, which could be greatly exceeded by pushing man in a short time; good reasons for leaving; price as it stands £300, or reasonable offer. Clarke, 78 Faulkner Street, Manchester.

UNRESERVED SALE.—Mr. F. J. Brett, of Leicester, is instructed to Sell by Auction, without reserve, the Business of a Chemist and Druggist, the property of Mr. Brown, Pharmaceutical Chemist, Kibworth, Leicestershire, on Monday, May 30, 1881. Kibworth is 10 miles from Leicester, and 6 miles from Market Harborough, on main line; population about 2,000; other large villages near; is a very pretty and superior class village; several titled families (who are customers) living in the immediate vicinity; centre of hunting district; the trade is dispensing, light retail, and prescribing, and capable of expansion; good house and garden; low rent. No one will be admitted to view except by card, to be obtained only of the Auctioneer, F. J. Brett, Leicester.

CHEMIST'S BUSINESS for Sale by Auction.—Genuine Prescribing Business, situate at Sinton, Chester. Mr. Brett has been instructed to offer for Sale, without reserve, on the 30th ult., at three p.m., the above genuine business, now returning £650 and capable of great extension; shop handsomely fitted and well stocked; drugs all first-class. Premises will be so'd at same time, and furniture at valuation. F. J. Brett, Auctioneer, Leicester.

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IMMEDIATELY, a competent Assistant, steady and obliging. Enclose carte, which will be returned. Milne & Co., Torquay.

LABORATORY MAN required; tinctures, infusions, &c. Apply, with full particulars as to experience, salary, &c., to "Tincture," C. R. Brown, 40 Sun Street, Bishopsgate, E.C.

AN ASSISTANT; Minor qualification; for a light Retail and Dispensing Business; good salary given; send carte (which will be immediately returned) to John Rae, Chemist, Newmarket.

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WANTED, Assistant (well up in Retail and Dispensing) for the West End, not under 25 years of age; a liberal salary (indoors) to a suitable man. Apply to T. Tomlinson, 2 Lower Seymour Street, Portman Square, W. Applications by letter should state height, whether qualified (and Photo, if applicable, to be returned).

A GENTLEMANLY Young Man, 22 or 23 years of age; who has been accustomed to a good-class Country Dispensing and Family Business; and who can offer undeniable references. Apply, stating age, height, salary required, and references, with carte de visite, to J. H. Hewitt, 38 High Street, Rochester. Applications not answered within 2 or 3 days declined.

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A S JUNIOR; out-door; Midlands preferred; highest references; aged 22; disengaged; T. J. Piska, 9 Cranmer Grove, Nottingham.

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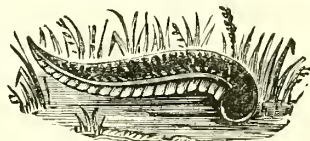
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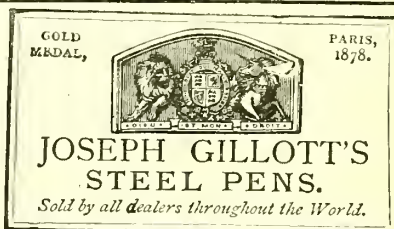
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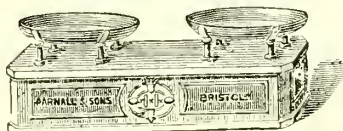
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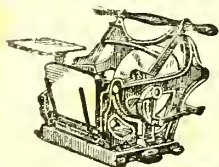
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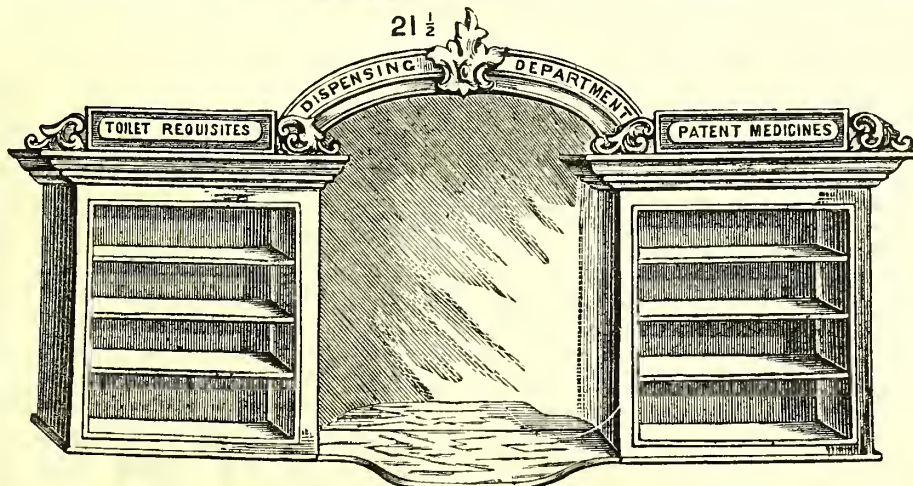
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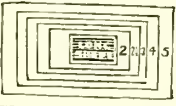




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		Inches.	d.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Heart Shape 	1	3 x 4½	1 size.	"	0 8	0 8	0 8	0 8	1 4	1 0
	2	4¼ x 6	1½ "	"	1 0	1 0	1 0	1 0	2 0	1 6
	3	4½ x 7½	2 "	"	1 6	1 6	1 4	1 4	2 8	2 0
	3½	5½ x 7¾	3 "	"	2 3	2 3	2 0	2 0	4 0	3 0
	4	6½ x 8½	4 "	"	3 0	3 0	2 8	2 8	5 4	4 0
	5	8 x 9¾	6 "	"	4 6	4 6	4 0	4 0	8 0	6 0
Long Shape 	1	2¾ x 4	1 "	"	0 8	0 8	0 8	0 8	1 4	1 0
	2	4¼ x 6¾	2 "	"	1 6	1 6	1 4	1 4	2 8	2 0
	2½	4½ x 8¼	3 "	"	2 3	2 3	2 0	2 0	4 0	3 0
	3	5¼ x 9¼	4 "	"	3 0	3 0	2 8	2 8	5 4	4 0
	4	6½ x 11	6 "	"	4 6	4 6	4 0	4 0	8 0	6 0
	5	7½ x 14½	8 "	"	6 8	6 8	6 0	6 0	12 0	8 0
Oval Shape 	1	4¼ x 6½	2 "	"	1 6	1 6	1 4	1 4	2 8	2 0
	2	6¼ x 8½	4 "	"	3 0	3 0	2 8	2 8	5 4	4 0
	3	7¾ x 9¾	6 "	"	4 6	4 6	4 0	4 0	8 0	6 0
Saddle Shape 	1	6¼ x 12¼	6 "	"	4 6	4 6	4 0	4 0	8 0	6 0
	2	7 x 15	8 "	"	6 8	6 8	6 0	6 0	12 0	8 0
	3	8 x 16	1/ "	"	8 8	8 8	8 0	8 0	15 6	12 0
Wrist 	1	3 x 10¼	3 "	"	2 3	2 3	2 0	2 0
Knee 	2	4¼ x 15	6 "	"	4 6	4 6	4 0	4 0

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	No.	Size of Leather.	Retail Prices.	Per Doz.
			d.	s. d.
Emp. Plumbi, for Ladies' Breasts	1	Diam. 6¾ in.	4 size	2 8
" " " " " "	2	" 7½ "	6 "	4 0
" " Spread on Chamois	1	" 6¾ "	...	4 0
" " " " " "	2	" 7½ "	...	6 0
	No.		No. 1 Quality. per doz.	No. 2 Quality. per doz.
Emp. Belladonna, for Ladies' Breasts	1	Diam. 6¾ in.	5 4	4 0
" " " " " "	2	" 7½ "	8 0	6 0
" " Spread on Chamois	1	" 6¾ "	8 0	6 0
" " " " " "	2	" 7½ "	12 0	9 0

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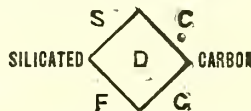
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SOCIETY OF CHEMICAL INDUSTRY.

NOTICE IS HEREBY GIVEN, in accordance with a resolution unanimously passed at the Inaugural Meeting on April 4th, that all persons connected with Chemical Industries may, for the space of six months, become members of the above Society upon signing the necessary forms—which may be obtained from any of the Secretaries—provided such applicants be considered eligible by the Council, and that they pay a subscription of One Guinea for the first year, after which they shall conform to the bye laws of the Society.

Members admitted during the first six months are exempted from the payment of an entrance fee.

The Society is intended to include all who are engaged in any Chemical Industry, or in any industry where Chemistry plays a part, and the Secretaries will be glad to give any information on the subject.

Application for membership may be made to any of the Secretaries, but addressed, care of Mr. THOMAS TYRER, Garden Wharf, Battersea, London, S.W.

The Council elected at the Inaugural Meeting is constituted as follows:—
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The first General Meeting will be held in London in June next, and due notice of the exact date will be given. At this meeting papers will be read and matters relating to Chemical Industry discussed.

It is respectfully requested that all those gentlemen present at the Inaugural Meeting who did not append their addresses to the roll, and who desire to become members, will at once communicate with the Hon. Metropolitan Secretary.

May, 1881.

(Signed) H. E. ROSCOE, President.

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NOTICE OF ANNUAL GENERAL MEETING.

NOTICE IS HEREBY GIVEN, that the **Fifth Annual General Meeting** of the Members of this Association will be held in the Banqueting Room of the **Inns of Court Hotel, Lincoln's Inn Fields, London, W.C., on Tuesday, May 17th, 1881**, at Twelve, noon, for half-past Twelve, for the transaction of the following business:—

To receive and consider the Report of the Executive Committee, and the General Statement of the Funds of the Association.

To Elect an Executive Committee and Officers for the ensuing year.

To Discuss Questions affecting the interests of the Trade.

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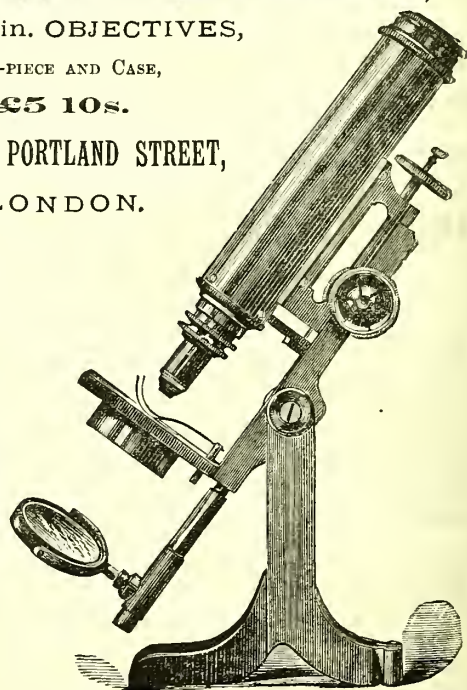
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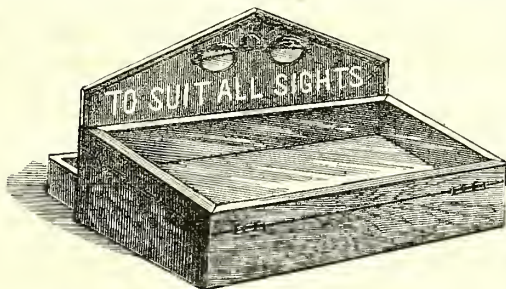
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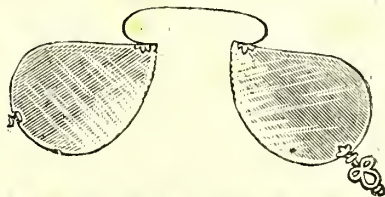
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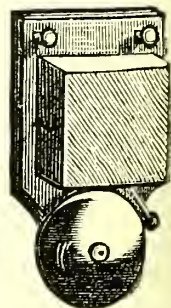
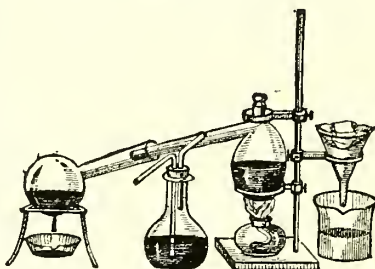
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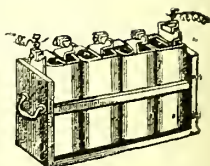
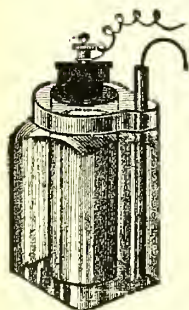
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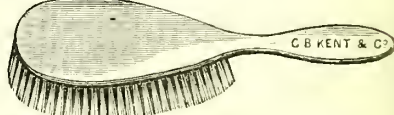
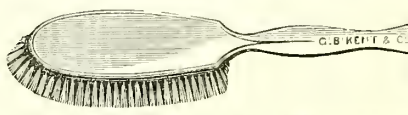
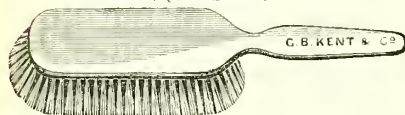
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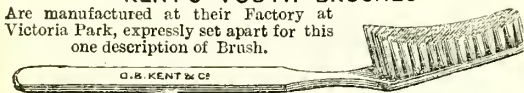
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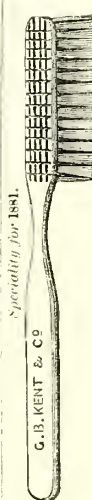
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Japanned Wet Brush Holders ..	3/0	5/6	6/0	13/0	"

KENT'S CLOTH BRUSHES in WOOD or IVORY.

KENT'S HAT BRUSHES in WOOD or IVORY.

KENT'S FLESH BRUSHES, Handled or Webbed.

KENT'S SHAVING BRUSHES in Badger Hair, &c., &c.

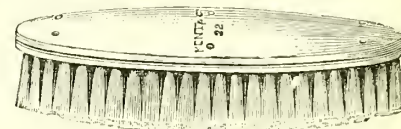


THE NOVELTY TOOTH BRUSH.
TRIPLE CEMENTED AND EXTRA SECURE.
Depôt for America: 91 Fulton Street, NEW YORK.

KENT'S NAIL BRUSHES.



Bent Back ..	4/0	7/0	8/6	19/6	12/0	14/6
Round End ..	4/0	7/0	8/6	11/0	13/0	15/0
Roached Grooved ..	19/0	24/0	28/0	32/0	36/0	40/0



PATTERN.

No. 22	20	22	23	24
8/6	13/0	17/6	22/0	

Handled Nail Brushes ..	4/0	4/6	7/0	8/0	10/6	12/0	16/0	per doz.
Wood " Trepanned	12/0	16/0	18/0	21/0	24/0	27/0	"	
" " Fibre	21/0	27/0	30/0	36/0	42/0	45/0	54/0	per grs.

KENT'S FITTED LEATHER CASES of various descriptions.

KENT'S HAND MIRRORS in Wood and Ivory.

KENT'S COMBS in Ivory, Shell, Indianrubber, &c.

KENT'S "NOVELTY" TOOTH BRUSH GUARD.

(Telescope pattern, silver-plated)

G. B. KENT & SONS' Illustrated Price List will be forwarded by post on application.

THE CONDY'S FLUID CO.,

7 Falcon Street, London.

BEWARE OF MEAN AND ACTIONABLY FRAUDULENT IMITATIONS OF OUR
FIRM AND GENUINE PRIZE MEDAL LABELS, WITH
FICTITIOUS ADDRESSES.

THE GREAT

BIRD'S

DELICIOUS

RASPBERRY BEER POWDER

Produces Raspberry Beer like the flavour of the
fruit, clear, bright, and sparkling, at 3½d. per dozen
½-pint bottles, including all cost.

BIRD'S

REFRESHING

LEMON BEER POWDER

Makes this favourite summer beverage, Lemon Beer.
A 4d. packet is sufficient for three and a half dozen
half-pint bottles. It is alike suitable for the healthy
and the convalescent.

Prepared only by F. BIRD, Chemist, COVENTRY.

WHOLESALE LONDON DEPOT: 223 UPPER THAMES STREET.

W. MATHER, NEWBURY, BARCLAY, SUTTON, London; HARRIS, Birmingham; EVANS, Liverpool.

DISCOVERIES.

BIRD'S

GINGER BEER & POP POWDER

Produces Ginger Beer, Sparkling and Effervescing; its
fresh Lemon and Ginger Flavour is unsurpassed; it is
used by thousands, and preferred by all; it is soon
in perfection, and is made quicker than by any other
method known. A packet will make two gallons.



See Trade Mark—a Watch and a Loom,
with Motto, Punctuality and Perseverance,
on each Packet. Write for Testimonials
and Opinions of the Press, also further
Testimonials.

PRICE, 2s. and 3s. PER GROSS; also in 3 & 6 doz. Boxes.
N.B.—SPECIALLY PACKED FOR EXPORTATION.

The use of the words Raspberry Beer Powder, Lemon
Beer Powder, and Sparkling Ginger Beer and Pop
Powder, or any imitation whatever, is illegal; and
any infringement of the law will be resisted.

N.B.—The Title is registered, and Preparation so-
cured according to Act of Parliament, by F. BIRD,
Coventry, the discoverer of the article, and the
originator of the name.



BEST,
5/6,
SECONDS,
3/6
per doz.

HIGHEST AWARD MELBOURNE EXHIBITION, 1880-81. REDUCTION IN PRICE OF THE CELEBRATED BEST FALCON TOOTH BRUSHES.

The most perfect Brush in the market. The knots are secured by wire, as well as cemented. No loose hairs; no hairs breaking off; made with unbleached bristle, which wears longer and gives more satisfaction than the bleached. Chemists can defy Co-operation. In every variety of pattern. Name stamped if one gross is ordered.

SPECIAL CASH TERMS TO CHEMISTS, &c.
10 per cent. on receipt of Invoice; 5 per cent. in a Month; or Net on journey.
CROWDEN & GARROD, Wholesale Brush Manufacturers & Merchants, **FALCON SQ., LONDON, E.C.,**
IMPORTERS OF SPONGE, ETC. ILLUSTRATED CATALOGUES ON APPLICATION.

SPONGE.

M. PETERSON & CO., Importers.
66 SOUTH JOHN STREET,
LIVERPOOL.
For Home, Foreign, and Colonial Markets.
Wholesale only.

See page 44.

GLOVE.

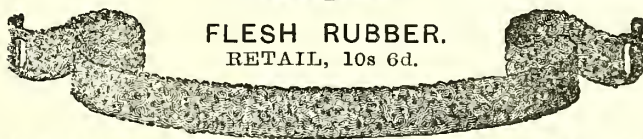
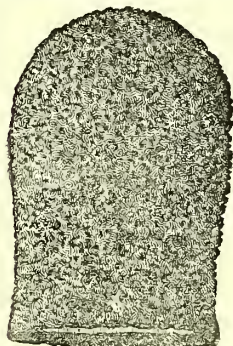
RETAIL, 2s. & 3s. each.

BY HER MAJESTY'S



ROYAL LETTERS PATENT.

FLESH RUBBER.
RETAIL, 10s 6d.



INDIA RUBBER FLESH GLOVE AND RUBBER.

This is an ENTIRELY NEW APPLICATION OF INDIA RUBBER, and lovers of the Bath pronounce them

THE ONLY EFFICIENT FLESH GLOVE AND RUBBER.

Being always absolutely Rough in hot or cold water, they are altogether unique. They cannot scratch the body, and produce a fine lather with Soap. They are manufactured from Pure India Rubber (the properties of which are peculiarly cleansing and genial to the skin), and retain their strength for many years.

Wholesale of Druggists' Sundries, Perfumers, &c.

I. LIVERMORE, Patentee.

THE CONDY'S FLUID CO.,

7 Falcon Street, London.

BEWARE OF MEAN AND ACTIONABLY FRAUDULENT IMITATIONS OF OUR
FIRM AND GENUINE PRIZE MEDAL LABELS, WITH
FICTITIOUS ADDRESSES.

JULIUS HÜLSEN & CO.,

NEWCASTLE-UPON-TYNE,

SOLE AGENTS FOR THE BLAYDON COLOUR COMPANY, LIM.,

MANUFACTURERS OF

Blanc Fixe (Baryta White).
Chloride of Barium. Sulphide of Barium.
Hydrate of Barium. Nitrate of Barium, &c.

BRAND. (BC) BRAND.

W. S. YATES,

Chemists' Shop Fitter, Shop Front Builder,
and Glass Show Case Maker.

PLANS AND ESTIMATES SUPPLIED FOR WORK IN ANY PART
OF THE KINGDOM.

9 CAMDEN STREET, LIVERPOOL.

The Camphorated Furniture Polish

(Secured by Royal Letters Patent),

For Polishing Furniture, Papier Maché, Marble
Articles, &c., with half the usual labour; removes
Moths, &c., from contents of drawers and wardrobes,
and is free from the unpleasant odour of turpentine.

In Bottles, 8d., 1/2, & 2/ each.

TERMS ON APPLICATION TO THE PATENTEES,

CARRUTHERS & ALLAN,
60 Robertson St., Glasgow.

INDEX TO ADVERTISEMENTS,

See Pages 37, 38.

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WHITAKER & GROSSMITH'S PURE WHITE GLYCERINE SOAP.

Richly perfumed, and guaranteed to contain the necessary quantity of GLYCERINE for effectually imparting to the SKIN the softening and healing properties for which it is so justly famed. 1s. 6d. Boxes of Three Tablets, 12s. per Dozen Boxes.

SELECT TOILET PREPARATIONS, extensively increasing in demand, which attests their excellent quality.

TOILET SOAPS. Per doz.			BOUQUETS. Per doz.		POMADES, &c. Per doz.		
Cent-Fleur (copyright)	2/6	Boxes of 3 tablets 20/	Cent-Fleur (copyright)		Cent-Fleur (copyright)	8/	12/ & 20/
Jockey Club	1/6	" 12/	Jockey Club Bouquet...	In Glass Stopped or Sprinkling cap Bottles.	Petroleum Pomade	12/	& 18/
Sandringham	1/6	" 12/6	Ess Bouquet ...		Brilliantine	8/	12/ & 20/
Eucalyptus Oil	1/6	" 12/	Frangipanni ...		Anglo Eau de Cologne	8/	& 12/
Wild Thyme (Thymol)	1/	" 8/	Pearl of Perfumes ...		Eucalyptus Vinegar	12/	& 20/
Semi-Cut Bars	1/	Bars of 6 kinds 8/6	Lime Tree Blossoms ...		White Cherry Tooth Paste	8/	& 12/

Trade Price Lists sent and Orders executed through Wholesale Houses, or direct from the Manufacturers,

WHITAKER & GROSSMITH, 22 SILK STREET (REMOVED FROM 129 FOLEY STREET), LONDON, E.C.

For Producing a Brilliant Gloss on all kinds of Starched Linen.

LINEN

Muslin Curtains, Dresses, Collars, Cuffs, and all fine linen fabrics, retain their stiffness and snowy whiteness much longer, when a little of Harrop's Linen Glaze is added to the Starch. It can be used with either Cold or Hot Water Starch.



REGISTERED TRADE MARK.

GLAZE.

One trial will prove its great superiority over all other preparations. It prevents the Iron sticking to the Linen, and will not injure the most delicate article.

SAVES LABOUR.

Indispensable in Every Laundry.

Sold in 1d., 3d., 6d., and 1s. Packets, and in Large Boxes for Hotels, Laundries, &c., 5/-, 10/-, and 20/- each. The penny packets are put up on neat cards, with oleograph centre, of 3 dozen each; wholesale, 1d., 8/-; 3d., 24/-; 6d., 48/-; 1/-, 96/- per Gross. Liberal Discount to Merchants and Exporters. Sells well in warm climates. May be had through most Wholesale Houses, or from the Manufacturer,

W. H. HARROP, CHEMIST, CREWE, CHESHIRE.

F. A. SARG'S SON & CO.'S CHEMICALLY PURE GLYCERINES AND TOILET GLYCERINE ARTICLES.

Transparent Glycerine Soap,

In registered Packets of three Tablets, and in oval Tablets in paper. Warranted to contain 33% of the purest Glycerine.

Liquid Glycerine Soap,

Best preventive against chapped hands, and unrivalled for imparting softness to them, and rendering them clean and white. See Testimonials of Professor J. von Liebig, Baron; and of Professor F. Wöhler.

Sarg's Double Distilled Glycerine, Chemically Pure,

In $\frac{1}{2}$ lb. and 1 lb. Bottles, should have a place in every nursery on account of its salutary action on the heads of children, relieving them from dandruff, and the roughness of the scalp they are so commonly subject to.

Sarg's New Carbolic Glycerine Soap,

In Boxes of three Tablets, is highly recommended as a most effective disinfection.

GLYCERINE, CHEMICALLY PURE.

SARG'S DISTILLED CHEMICALLY PURE GLYCERINE, 29° Beaumé, in Cases of Four 56-lb. Tins each.

SARG'S DOUBLE DISTILLED GLYCERINE, Chem. pure, 30° Beaumé, in Cases of Four 56-lb. Tins each; Twenty 5-lb. Bottles, Fifty 1-lb. Bottles, and 100 $\frac{1}{2}$ -lb. Bottles, with Registered Label.

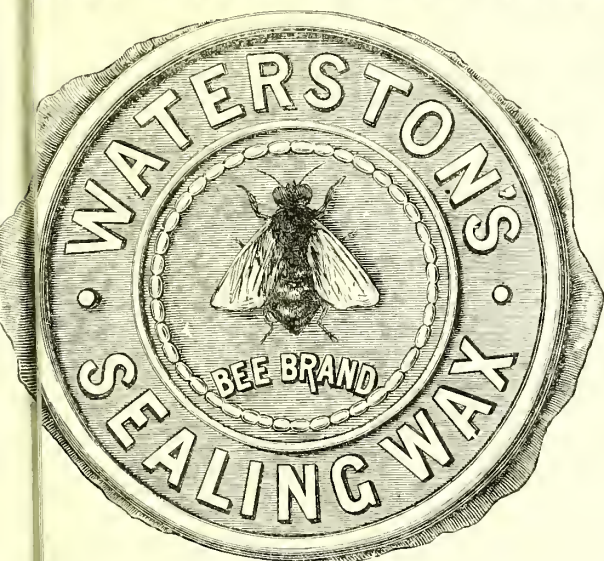
SOLD BY ALL WHOLESALE CHEMISTS AND DRUGGISTS.

SOLE WHOLESALE AGENTS FOR THE UNITED KINGDOM AND THE COLONIES,

SCHMEDES, ERBSLOH & CO.,

6 Castle Street, Falcon Square, LONDON, E.C.; 14 Market Buildings, Flinders Lane, MELBOURNE;
26 O'Connell Street, SYDNEY.

HIGHEST AWARD, MELBOURNE, 1881.
PRIZE MEDAL, SYDNEY, 1880.



EIGHT PRIZE MEDALS
FOR THE
FINEST LETTER & INDIA WAX

From the following Exhibitions:—

Edinburgh, 1756. London, 1851. Paris, 1855.
London, 1862. Dublin, 1855. Paris, 1867 (Silver Medal).
Philadelphia, 1876. Sydney, 1880.

GEORGE WATERSTON & SONS,
MANUFACTURERS OF
SEALING & BOTTLING WAX.
(ESTABLISHED 1752)

London: 9 Rose St. Edinburgh: 56 Hanover St.

BOWLES & CROSS,
MEDICAL & GENERAL PRINTERS,
Engravers, Lithographers,
ETC., ETC.

FOR DISPENSING, RETAIL, AND PROPRIETARY LABELS.
FOR MEMORANDUMS, COUNTER BILLS & PRESCRIPTION ENVELOPES.
FOR BILL-HEADS, WRAPPERS OF ALL KINDS, & POWDER ENVELOPES.

Send to 3 LAMBETH HILL,
QUEEN VICTORIA STREET, E.C.

INDEX TO ADVERTISEMENTS,

See Pages 37 & 38.

HOMŒOPATHIC MEDICINES FOR EXPORT, *Specially Secured* AGAINST EVAPORATION.

PREPARED BY

E. GOULD & SON,

*Chemists by Appointment to the London
Homœopathic Hospital,*

HOMŒOPATHIC CHEMISTS,
59 Moorgate Street, London, E.C.

PRICE LISTS OF MEDICINES, MEDICINE CHESTS, &c.,
POST FREE TO ANY PART OF THE WORLD.

L. SALTER & CO.,
Brush Makers and Perfumers,
RED LION SQUARE,
LONDON, W.C.,

Allow 15 per cent. discount cash with order,
and continue to supply all their celebrated
SPECIALITIES, including Salter's "Perfect
Pattern" and other Tooth Brushes, Dr.
Lincoln's Dental Sealing Paste, Octopus
Denti rice, &c., &c., they being the holders
of the original recipes.

CRAVEN'S VERMIN POISON,

For the effectual Destruction of RATS and MICE.

Guaranteed Second to None. Sale Increasing Daily.

USE CRAVEN'S VERMIN POISON,

For the efficacy of which numerous Testimonials have been received.
Sample Packets Post Free. Prices, 2d., 3d., 4d., and 1s.—1s., 1s. 6d., 3s.,
and 6s. per dozen. Carriage Paid. Counter Bills.

F. CRAVEN, Chemist, Batley Carr.

WHITE AND SOUND TEETH.
JEWSBURY AND BROWN'S
ORIENTAL TOOTH PASTE.



This old-established and increasingly favourite Dentifrice has been Forty Years before the Public. It is warranted to retain its properties and keep in good condition in any climate.

The original and only genuine is manufactured solely by

JEWSBURY and BROWN,
CHEMISTS, MANCHESTER,

and is distinguishable by the Trade Mark, printed in red and green, a facsimile of which is annexed. Particular attention should be paid to this guarantee of genuineness, as numerous imitations are offered.

Sold universally by Chemists and Perfumers, at 1s. 6d. and 2s. 6d.

The Trade and Shippers supplied by the leading houses in London and elsewhere. Bills and Show Cards forwarded on receipt of address card, and directions for enclosure.

WOODS' ARECA NUT TOOTH PASTE.

For Removing Tartar and Whitening the Teeth, without injuring the Enamel. Sold in Pots, at 6d. and 1s. each.

WOODS'

QUININE, CANTHARIDINE, & ROSEMARY HAIR CREAM

(WITH GREASE), Restores the Hair if weak or falling off.
 Price 9d., 1s. 6d. and 3s. 6d. per bottle.

WOODS'

QUININE, CANTHARIDINE, & ROSEMARY HAIR WASH

Similar to the above (without grease). Price 1s. 6d. and 3s. 6d. per bottle.

WOODS' DANDRUFF POMADE.

Never fails. 1s. per pot.

Proprietor: W. WOODS, M.P.S., Chemist, Plymouth.

SOLD WHOLESALE BY ALL LONDON HOUSES.

BEDDARD'S
BELGRAVIA TOOTH-PASTE

(REGISTERED)

Is entirely different from any article of the kind, very much liked by customers, a most effectual dentifrice, and handsomely put up in large jars,

ONE SHILLING EACH.

WHOLESALE OF ALL PATENT HOUSES.

LIBERAL DISCOUNT TO LARGE BUYERS.

Prepared only by

JOHN BEDDARD,

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ANTITARTAR

For Cleaning, Preserving, and Beautifying Artificial Teeth and Plates.

This Preparation acquires a ready sale, as Chemists are continually asked, "What shall I use for cleaning my artificial teeth." Plates that have become corroded and discoloured in the mouth are speedily restored to their former brilliancy and polish.

Sold in neat Tin Boxes, Retail 2 - each; Wholesale Price, 18/- per dozen.

SOLE PROPRIETOR AND MANUFACTURER—

J. SHIPLEY SLIPPER, Surgeon-Dentist, THE HOLBORN DENTAL SURGERY, 37 HIGH HOLBORN, LONDON, W.C.

WHOLESALE AGENTS.—Messrs. BARCLAY & SONS, Farringdon Street, London, E.C.; JAMES SLIPPER, Pharmaceutical Chemist, 87 Leather Lane, and 14 & 15 Dorington Street, Holborn, London, E.C.

Bills, with Name and Address, may be had on application.

RIMMEL'S NEW SANITARY APPLIANCES.



RIMMEL'S AROMATIC OZONIZER, a fragrant powder which, simply spread on a plate in apartments or places of public resort, evolves the refreshing and healthy emanations of the Pine and Eucalyptus, and produces a quantity of *Ozone*, the great air purifier. It is in use in the principal Hotels, Clubs, and Theatres, and also in the Saloons and Cabins of several Lines of Steamships. In 4 oz. tins, 1s.; by post for 15 stamps; 1 lb. tins, 3s. 6d.; Spreading Plate, 6d.

RIMMEL'S OZONIZED EAU DE COLOGNE, LAVENDER WATER, or FLORIDA WATER, sprinkled on a pad hung up in the air, destroys bad smells and noxious effluvia in sick rooms, closets, &c. It is recommended also to be used on the handkerchief when attending crowded places, visiting the sick, or travelling by land or sea. Price, 2s. 6d. and 5s. per bottle; pad, 1s. A box containing a Tin Aromatic Ozonizer, a Plate, a Bottle Ozonized Eau de Cologne, and a Pad, 5s.

N.B.—Those preparations have been submitted to the examination of eminent Chemists, who have certified their excellent effect.

SOLD BY ALL CHEMISTS AND DRUGGISTS.

WHOLESALE LIST SENT ON APPLICATION TO—

EUGENE RIMMEL, Perfumer to H.R.H. the Princess of Wales,
 96 STRAND, LONDON.

CAUTION!

A. S. LLOYD'S EUXESIS.

The attention of the Trade is called to the following distinctive marks on the genuine A. S. LLOYD'S EUXESIS:—

Firstly—My full name, AIMEE LLOYD, on cap of tube.

Secondly—The words "Prepared by his Widow" in raised letters on to of tube, and in RED INK across labels.

Thirdly—My Address, "No. 3 Spur Street, Leicester Square," on both English and French labels.

(Signed), AIMEE LLOYD

(Widow of A. S. Lloyd).

Sole Proprietor and Manufacturer of the GENUINE Lloyd's Euxesis.

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Park & Tilford, NEW YORK. Bradford & Anthony, BOSTON, U.S. Hooper & Co., MONTREAL and TORONTO. Roberts & Co., 23 Place Vendome; Mercier, 30 Rue du Faubourg Poissonnier; Loiseau, 25 Place Vendome, PARIS. Balay & Sons, Edwards & Son, Newbery & Sons, W. Sutton & Co., J. Sanger & Sons, Butler & Crispe, Maw, Son & Thompson, Evis, Lescher & Webb, LONDON. Bewley & Draper, DUBLIN. Raimes & Co., EDINBURGH and LIVERPOOL. Evis, Sons & Co., and J. Thompson, LIVERPOOL. Woolley, Sons & Co., MANCHESTER. W. Foggitt, THIRSK. Goding & Co., CORK.

Best Quality Graduates for the American Markets.

ESTABLISHED 1841.

J. H. MCINTYRE & SONS,

WHOLESALE AND EXPORT MANUFACTURERS OF

GRADUATED GLASS MEASURES

30 Kirby Street, Hatton Garden, London, E.C.

Our Graduates have stood the test of the American Markets for upwards of a Quarter of a Century.

SPECIAL PRICE LIST OF MEDICAL & OTHER GLASS BOTTLES, MANUFACTURED BY JONAS & JULES LANG,

13 Charterhouse Buildings, Aldersgate St., London, E.C., & 28 Rue Notre Dame de Nazareth, Paris.

WHITE GLASS VIALS, Long, Medium, or Short
Serie — $\frac{1}{2}$ 1 2dr. $\frac{3}{4}$ 1 1 $\frac{1}{2}$ 2 3 4oz.

Stoppered—15/ 15 15/ 17/ 18/ 18/ 19/ 22/ 24/ „

ROUND SHOULDER VIALS, for Lime Juice and
Glycerine—

$\frac{1}{2}$ 1 1 $\frac{1}{2}$ 2 3 4 6 8 10 12 16 20oz.

Stop'd—16/ 17/ 18/ 19/ 22/ 24/ 30/ 36/ 59/ 43/ 51/ „

BEST WHITE FLINT OVALS, accurate measure,
suitable for either Dispensing or Perfumery—

$\frac{1}{2}$ 1 1 $\frac{1}{2}$ 2 3 4 6 8 10 12 16 20oz.

Stop'd—16/ 17/ 18/ 19/ 22/ 24/ 30/ 36/ 59/ 43/ 51/ „

BEST WHITE FLINT FLATS, for Dispensing, &c.—

$\frac{1}{2}$ 1 1 $\frac{1}{2}$ 2 3 4 6 8 10 12 16 20oz.

Stoppered—16/ 17/ 18/ 19/ 22/ 24/ 30/ 36/ 59/ 43/ 51/ „

ROUND SHOULDER KALI BOTTLES—

$\frac{1}{2}$ 1 1 $\frac{1}{2}$ 2 3 4 6 8 10 12 16 20oz.

Fitted with Box Tops—13/ 15/ 20/ 24/ 28/ 30/ 33/ „

SELTZOGENES, wire covered—

$\frac{3}{4}$ 5 8 Pints.

12/ 17/ 27/ each.

Liberal Discounts for large quantities.

SYPHONS 22/ per doz.

CASTOR OIL BOTTLES, Deep Blue—

$\frac{1}{2}$ 2 3 4oz.

5/6 7/ 8/ 9/6 gross.

BEST GREEN DISPENSING BOTTLES—

$\frac{3}{4}$ 4 6 8 12 16oz.

7/6 7/6 8/ 8/ 13/ 17/6 gross.

FEEDING BOTTLES. Alma Mater, &c.—Straight

White Glass, fitted complete with Box Tops, 30/

gross; 1/ kind, fitted complete, each in Box with

Tube Brush, 50/ gross.—Bent, 1/ kind, 57/ gross;

sd., fitted with Boxwood Tops, 32/ gross.

All Fittings for Feeding Bottles sold separately and at

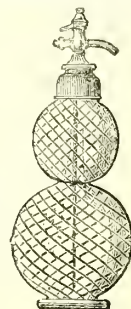
very low prices.

POMADE BOTTLES, fitted with Box Caps—2oz., 12/

3oz., 16/ 4oz., 18/ gross.

Special Quotations given for any kind of Bottles.

[TERMS—CASH.]



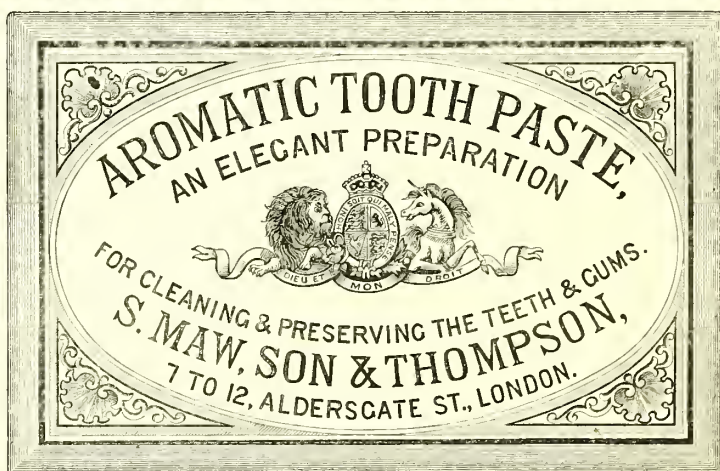
S. MAW, SON & THOMPSON'S
CHERRY TOOTH PASTE,
 FOR CLEANING & PRESERVING THE
TEETH AND GUMS.

In Round Earthenware Covered Boxes, Burnt-in Labels,
 4s. and 7s. 6d. per Doz.

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

S. MAW, SON & THOMPSON'S
AROMATIC TOOTH PASTE.

IN COVERED JARS.



BURNT-IN LABELS.

Price to the Trade, 12s. per dozen. Usual Discount.

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Woolley, Sons & Co. MANCHESTER.	Goodall, Backhouse & Co. ...	LEEDS.
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W. H. Schieffelin & Co. NEW YORK.	Frank Senior SYDNEY.
Richardson & Co. ST. LOUIS.	Faulding & Co. ADELAIDE.
Bart & Hickcox CINCINNATI.	B. G. Lennon & Co. PORT ELIZABETH.

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

SUPPLEMENT TO

The Chemist and Druggist.

MAY 14, 1881.

EXHIBITION OF

PHARMACEUTICAL APPARATUS.

THE very successful exhibition of pharmaceutical apparatus, novelties, and rarities, held last year in the rooms of the Pharmaceutical Society, was too interesting not to make most of its visitors wish that it might be repeated. The yearly return of annual meetings, which bring so many country chemists to London, offered an opportunity for giving and getting new ideas too good to be lost.

The Pharmaceutical Council agreed without a dissentient voice to a resolution appointing an Exhibition Committee to organise matters, and on the day of the annual meeting of the Society, and on one day before and after, the exhibition will be open for inspection.

The list of exhibits is not so long as it was last year, but it contains a number of interesting machines and chemical and pharmaceutical products.

On May 17 and 18 the rooms will be open from 9 A.M. to P.M., and on May 19 from 9 A.M. to 10 P.M. On May 19 only members and associates in business will be admitted, on the other days it is open to all chemists.

ARNOLD & SONS, 35 & 36 West Smithfield.—Patent clinical thermometer, with coloured scale; patent vaporiser or bronchitis-kettle, inhaler, and vapour-bath combined; patent hypodermic syringe; patent eye-syringe; new patent constant-current battery; Arnold's invalid alarm-bell; patent "Simplex" enemas; registered portable enema; registered "Universal" enema; improved throat spray-producer; Lister's carbolic spray-producer; Lister's carbolic steam spray-producer; Dr. Benton's improved "Universal" douche; Alexander's urinary test-case; ophthalmic and laryngeal lamp; instantaneous vaccinator; indiarubber bandages, free from sulphur; registered "Desideratum" knife and fork combined, for use of invalids and those who have the use of only one hand; human hair-clipping instrument; Johnson's new section-knife, for microscopic sections.

AKER, JOSEPH, & SONS.—Patent sifting and mixing machines; new hopper mixing machine; Morton's patent liquid compound mixer; patent American drug-mills.

RACHER, P. H., & Co., 77 High Street, Wincanton.—Desideratum mixers with improvements.

ROGNEY, BURBIDGE, CYRIAX & FARRIES, 16 Coleman Street.—Naphthalin monobromide; Oolachan oil; extract of cascara sagrada; extract of witch hazel; extract of Jamaica dogwood; extract of grindelia robusta; extract of cotton rood bark; extract of yerba santa; sanguis bovinus exsiccatus (dissicated blood); empty capsules; vanilla sugar; vanilline crystals; coumarin; crategin; heliotropine; salicylic wafers; salicylic foot and wound ointment; Chateaud's dosimetric granules.

BROUGH, JAMES, Cale Street Distillery, Chelsea.—Specially pure spirits of wine.

BOURNE & TAYLOR, Castle Street, Holborn.—Simple band pill-coater, specially recommended, and with formulae for pill-coating, by Dr. Symes; rotary pill-coater, for large quantities; electro-magnetic apparatus; stopper loosener; Proctor's pill-scoop; carded sponges, free from sand; thermometers, ebonised, floating, small, and clinical; respirators; vaccination-shields; "absorbent" cotton wool; new counter-box for showing tooth and nail brushes; patent funnel for ethereal preparation; the "Pet" feeding-bottle; opal glass cold-cream pots; ear and eye syringes; tin funnel measure for oils; porcelain funnel with handle and deep flutes; porcelain mortar and pestle; glass bottle, with tap for storing tinctures, &c.; wet compress for the throat; Dr. Taylor's glass inhaler; new adhesive plaster; sparadrap agglutinatif; waterproof seat cushions, for protection from taking cold from damp seats, &c.; electro-plated medicine-spoons; glass spray-producer for the throat; glass spray perfumes; telephonic stethoscope; specimens of superior engraving for cold-cream pots; countless collodion bottles.

BURROUGHS, WELCOME & Co., 7 Snow Hill, London.—Enterprise American drug mill and tincture press, with improvements; Harrison's irrigator; McKesson and Robbin's pills and the 'Burroughs' ammonia inhaler.

BURTON, GEO., 232 St. John Street, E.C.—American drug mill.

BUSH, W. J., & Co., 20 to 23 Artillery Lane, Bishopsgate.—Essential oils, perfumes, fruit essences, soluble essences; granulated preparations; harmless vegetable colours; new artificial essential oils, for perfuming oils and soap—lilac, tonquin, pelargonium; oil of sandal wood, prepared from the cochineal tree.

CASELLA, LOUIS P., 147 Holborn Bars.—Gimingham's sprengel air-pump and patent blow-pipe; Casella's patent clinical and benzol thermometers.

CHEMISTS' AERATED WATER COMPANY, 45 Gifford Street, Caledonian Road, N., and Montpelier Gardens, Harrogate.—Sparkling rubine and lime; Harrogate Kissengen and sulphur waters; mineral-acid water.

CLAYTON ANILINE COMPANY (LIMITED), Clayton, Manchester.—Pure benzole, toluole, xylene, nitro-benzole; binitro-benzole in powder and in crystals; binitro-toluole; pure aniline; para-toluidine; ortho-toluidine; pure xylidine; white essence of mirbane, for perfumery and soap; chlorate of soda; chlorate of barium.

CHRISTY, T., & Co., 155 Fenchurch Street, E.C.—Alkaloids and rare drugs.

CORBYN, STACEY & Co., 300 High Holborn, W.C.—New drugs:—*Adonis vernalis*, white quebracho bark, kava-kava root, stigmata of maize, Eunonymin, gynecardic acid, papayine, oil of *Erigeron canadensis*, chanlmoogra oil. New preparations:—Liquid extracts of coca, damiana, eriodictyon, guarana, quebracho, and *linea major*; liquor opii dialysati, liquor phosphori, liquor piper methystici, chanlmoogra oil in perles and ointment.

CORSAN, J. R., London Sandblast Works, 80 Gray's Inn Road, W.C.—Specimens of bottles engraved by sandblast process.

CORTIS, ARTHUR B., 12 South Street, Wortbing.—Stanford's patent chloro-calcium, a new disinfectant.

COWAN, WILLIAM, 24 Avenue Street, Springburn, Glasgow.—Vaccination-shields in cotton, cbamois, and silk; new enamelled advertising tablets.

DAVIS, JOSEPH, & Co., Fitzroy Works, Kennington Park Road, S.E.—New barometers; insulated, clinical, and bath the mometers; "A. B. C." water testing apparatus.

D: GRAVE, SHORT & Co., 59 St. Martin-le-Grand, E.C.—Chemical balances; fine and commoner dispensing-scales; drug, veterinary, and deep copper scales; box and hook and grain-scales; medicine-chest and poison-scales; counter and pedestal weighing-machines; weights adjusted and stamped by Dr. Redwood; German silver and aluminium and round grain-weights; sets of grain-weights, 1-100 and 1,000; iron weights, apothecaries' cup and flat weights; grain and gramme weight; standard apothecaries' weights, as supplied to counties and boroughs.

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DIGNE & Co., 35 Place St. Michel, Coin du Boulevard Chave, Marseilles.
—Apparatus for enclosing powders, &c., in wafer envelopes, &c.

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GERRARD, A. W., University Hospital.—Specimens illustrating the various stages in the manufacture of atropine, daboisine, and hyoscyamine.

GORHAM, JOHN, M.R.C.S., Tunbridge, Kent.—New tubular balance, for use without separate weights.

HARVEY, SHEPHERD & Co., Charterhouse Square, Aldersgate Street.—Cartner's and Cortes' pill-coaters; Al pill-coating solution; glass label dampers (2 sizes); angular gra'n and drachm weights (new); verified measures; Countess Zieha and County Ball perfumes; large crackle caraffes; ink pills; Labattier's (glass) writing ink; Mather's new corn plaisters, mustard leaves, and porous capsicum on helladonna plaisters; insect powder boxes and tins; Crown corn pencil; toothache pencil; Ryland's patent bottle stopper.

HOPKIN & WILLIAMS, Cross Street, Hatton Garden.—Acid salicylic, pure, natural, from winter green oil; acid sclerotic; aldehyde pure; ammonium acetate cryst; beherine, pure; herberine, pure; berberine hydrochlorate and sulphate; himuth ammonio-citrate; camphor monobromide; cantharidine; cerium citrate and ammonio-citrate (scales); chloral hydrate, pure, redistilled; cinchouidine salicylate (made with natural acid and quite neutral); daturine; diastase; emetine; eserine sulphate; eugenol; fuchsine, pure, for medicinal use, free from arsenic; homatropine, pure cryst; homatropine hydrobromate; hydrokinone; manganese oxide, pure, medicinal; methylstrychnia; muscarine; monochromonaphthaline; pelletierine tartrate; picrotoxine; pilocarpine hydrochlorate and nitrate; potassium chrysophanate; quinine salicylate (made with natural acid) and quite neutral; resorcin; sodium salicylate, pure, made with natural acid; terebine, pure; urea, pure; trimethylamine, solution; zinc permanganate and salicylate, neutral.

HUTCHINGS, J., 11 New Cross Road, S.E.—Champion label gummer; spile drawer.

IDRIS & Co., Agincourt Works, Mansfield Road, Haverstock Hill.—Mineral waters in syphon bottles; aerated fluid magnesia, in syphon bottles; citrate of caffeine, and silicylate of lithia; sparkling phosphade, peptate, and lupulate; non-alcoholic beverages, sparkling apple, orange, quinine, and Peruvian wine; ginger ale; quinine tonic water; Sikkan, a beverage containing all the nutritive constituents of oatmeal.

JABNOCK'S PATENT METALLIC BOX MANUFACTORY, Canonbury Works, Dorset Street, N.—Patent decorated metallic boxes with rounded corners.

LEJEUNE & PERKEN, 24 Hatton Garden, London.—Ophthalmoscopes laryngoscopes, &c.

MACKEY, MACKEY & Co., 1 and 2 Bouverie Street, Fleet Street, E.C.—Quinquine, Mackey's; citrate of iron and quinine; mist. cerii co.; mist. bismuthi co., Mackey's; saxcere alba; saxcere flav.; chlorodyne; phosphorated refreshing saline; liquor rose co., for colouring mixtures; liquor santal c. copaiba, &c.; liquor copaiba c. cnheba et buchu; mistura olei morrhæe or cod-liver oil emulsion; theochromoleine, or chocolate cod-liver oil.

MARTINDALE, W., 10 New Cavendish Street.—Portable and poor man's inhalers.

MAW, S., SON & THOMPSON, 7 to 12 Aldersgate Street, London, E.C.—Pill-coaters; pill-machine; powder folders; root-cutter; Etna; palette knives; odorators; food-warmers; breast-glasses; nipple-shields; breast-relievers; plaster; feeding-bottles; dress-protectors; teat holders and cords; wax-paper; suppositories; suppository-moulds; pessary-moulds; bougie-monds; show-jars; new revolving fronted show-counter.

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REYNOLDS, R., 13 Briggate, Leeds.—Model of stirring apparatus.

SANITARY AND DOMESTIC APPLIANCES COMPANY, 10 Exchange Arcade, Deansgate, Manchester.—Fielding's "Indispensable" water-filter.

SHILLCOCK, J. B., & SON, Bromley, Kent.—Patent leech vase; safety poison-labels.

STONE, W., 41 Gloucester Street, Queen's Square, W.C.—Dispensing and assay balances; brass weights; circular pocket levels.

SYMES & Co., Liverpool.—Bladder pessaries and mould for making same; continuous enema syringe; medical batteries of English and French manufacture; Dr. Imbach's apparatus for applying electricity to different parts of the body; urethral irrigator; Cauty's patent compress; Royle's self-fitting filter; Körting's vacuum pump and gauge.

SYMONS, W. H., 2 Queen's Terrace, St. John's Wood.—New case for dispensing scales, with scales.

WELLS, GEORGE, 12 North Street, Westminster.—Improved feeding-bottles.

WHEELER, Ed., 48 Tollington Road, N.—Achromatic microscopes and objectives for chemical and analytical investigations; microscopic objects and preparations and cabinets for same.

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The cheapest of all disinfecting agents; and the only safe and efficient sick room purifier.

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For DRYING SHOP WINDOWS and Air-tight GLASS CASES. One Block (or more, according to the space required) is placed upright in a saucer or hyacinth glass within the window or case; it absorbs moisture from the air around, which it collects in the saucer below. To keep the air continually dry, when the block has dissolved it should be replaced by another. The solution in the saucer may be used as disinfectant.

2. The SOLUTION is used for general disinfecting purposes, for which from 1 teaspoonful to a tablespoonful may be added to a pint of water.

For DISINFECTING the air of sick rooms, cloths should be saturated with the Solution and suspended in different parts of the room.

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Solution: Half-pints, 6d.: Pints, 1/-; per Gall., 2/6.

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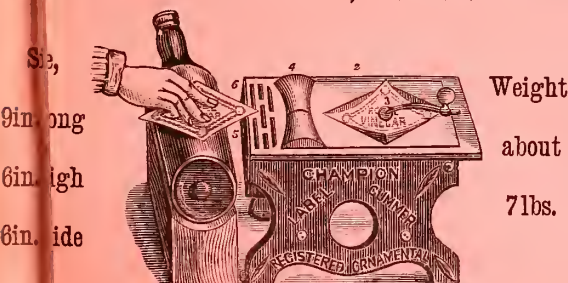
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CHAMPION LABEL GUMMER,

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- No. 1. The frame, made of iron.
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- No. 3. The box containing the labels, fitted with centre coiling brass spring, which causes each label to come to the surface, and is kept in place by pressure bar; the roller attached assists the label to the drum (No. 4).
- No. 4. The drum; of peculiar construction, and especially made to distribute the gum equally and thoroughly over the labels.
- No. 5. The trough containing the gum, paste, or starch.
- No. 6. The strainer, which dispenses with unnecessary gum that may be on the label, the same descending into the trough, causing no waste whatever.

ADVANTAGES.

Without a doubt this machine excels all others for the purpose of labelling boxes or packages. The simplicity and rapidity is realised when a boy can gum and label 100 dozen an hour, without in any way destroying or defacing a single label.

Any type or any size label can be used, one machine only necessary. Requires no fixing, but can be permanently fixed if required. It cannot be broken, or get out of order.

Another recommendation: the label comes from this machine perfectly straight and is so placed on bottle or package.

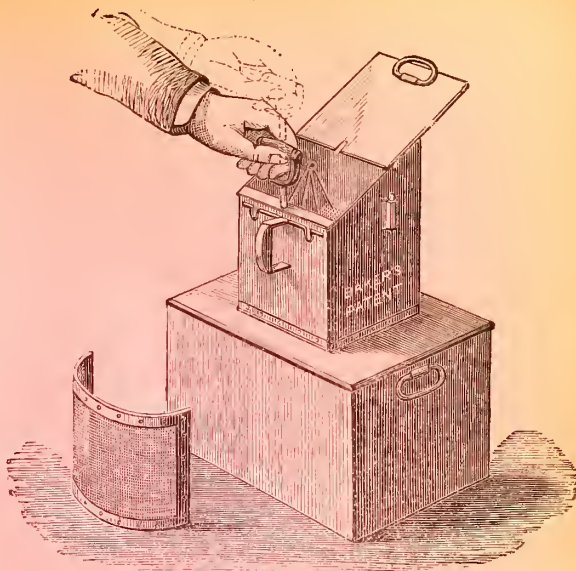
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What with the saving of labour and labels, this machine pays for itself in a very short time; and to cause its universal use is sold at the low figure of

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No. 3.



No. 3.—This machine mixes from 14 to 28 lbs. at a time, and is provided with two drawers holding 30 lbs. each; several cwt. can be mixed and sifted in a short time when required; it is equally convenient for small quantities. This size is well adapted for wholesale and large retail dealers, and is highly recommended.

The introduction of these inventions having already been attended with a sale of about 10,000 machines among Chemists and Druggists and Manufacturers in the United Kingdom and abroad renders further testimonials to their superiority over any other "Mixers" unnecessary. They are the only machines which combine the advantage of the finest sieves with those of a perfect mixer. For rapidity of action and the entire avoidance of waste and dust in the operation they stand unrivalled. The machines are provided with seven different meshes of sieves, from which a selection of four is usually made, forming the "ordinary set." The finer sieves are used for Camphorated Chalk, Violet Powders, Aromatic Powders, Gregory, Tooth Powders, Dover's Powders, and all finest compounds, while the medium and coarser sieves are used for Seidlitz, Lemon Kall, Sherbet, Baking Powders, Curry Powders, Pill Powders, Horse and Cattle Mixtures, preparing Tinctures, &c. The sieves can be instantly changed for other meshes, and the whole machine taken apart for cleaning.

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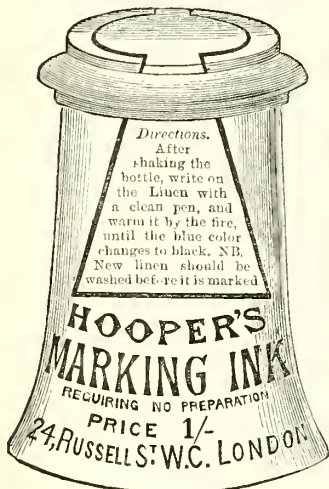
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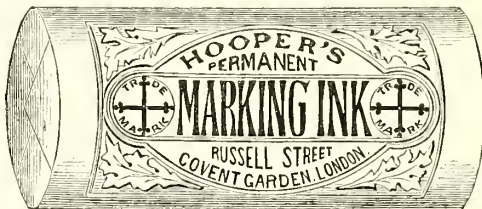


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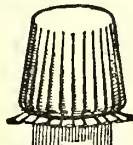
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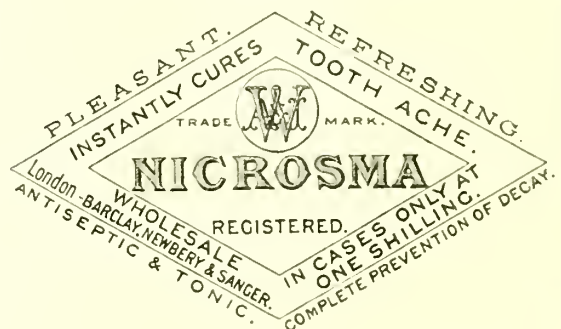
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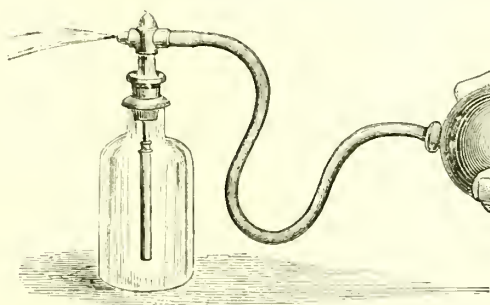
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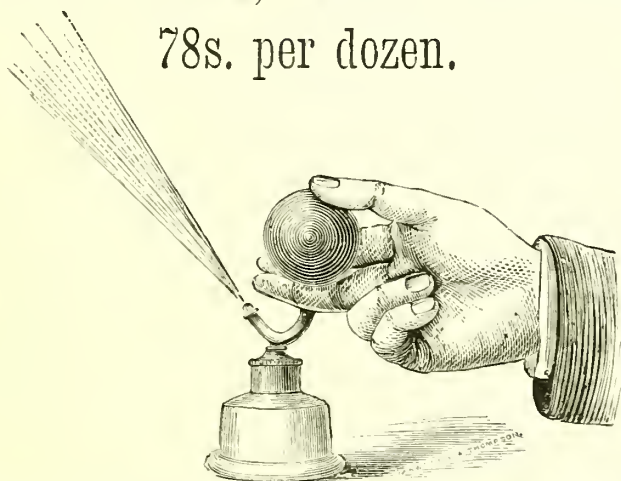
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Zinc, Sulphur, Petroleum, 6d. & 1/

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Carbolic Acid Soap, 1/1 & 1/6 In boxes 3 lbs.

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Glycerine and Carbolic Acid Soap 1/1 & 1/6 per doz.

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Strength per cent.	Specific Gravity.	Price per gallon.
63 over proof ..	0.8238 ..	20/6
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Terms—Cash on Delivery. Jars to be returned or paid for.

For Exportation, Cask included, 4/0, 60 O.P., F.O.B.

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Retail,
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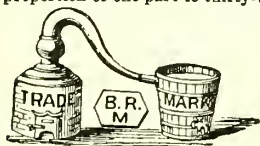
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Aqua Anethi, Concent. 4/0	Aqua Cinnam. Ver. Concent. 6/0	Aqua Fœniculi, Concent. 4/0	Aqua Pimentæ, Concent. 4/0
" Anisi, " 4/0	" Cassia, " 4/0	" Menth Pip. " 4/0	" Rose " 8/6
" Camphoræ, " 4/0	" Flor. Aurent. " 8/6	" Ang. Con. 6/0	" Rose Virgin " 10/6
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This unique Powder possesses the emollient properties of fullers' earth, free from colour, and in a high condition of purity. Dr. ALEX. MILNE, Edinburgh, in his recent book entitled: “The Child, and how to Nurse it,” says of this favourite powder, “WE RECOMMEND IT IN PREFERENCE TO ALL OTHERS.”

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SEASON 1881.

IN ORIGINAL PACKAGES.

Cases Free. Quotations subject to usual Terms.

No.	Description.					Number of Pieces per Case.	Price per Case.		
							£	s.	d.
1	Honeycomb,	Selected quality	...	...	assorted sizes	90	14	5	0
2	"	Fine	"	...	"	80	10	10	0
3	"	Good	"	...	"	75	7	18	0
4	"	Second	"	...	"	70	5	10	0
5	"	Third	"	...	"	80	4	5	0
6	"	Rough, for Stable use	...	...	"	100	2	12	0
7	"	First quality	...	...	medium bath sizes	24	5	14	0
8	"	Choice quality	...	...	large	18	6	18	0
9	"	Fine	"	...	"	18	4	15	0
10	"	Good	"	...	"	18	2	14	0
11	"	First	"	...	small	200	3	10	0
12	"	Second	"	...	"	200	1	14	0
13	Turkey, Cups,	First	"	...	bath sizes	40	14	15	0
14	"	Second	"	...	"	40	11	10	0
15	"	First	"	for Toilet	assorted sizes	70	17	18	0
16	"	Good	"	"	"	70	14	15	0
17	"	Second	"	"	"	70	10	18	0
18	"	Useful pieces	"	...	"	70	7	7	0
19	"	First quality, for Nursery	...	...	"	190	9	18	0
20	"	Second	"	...	"	200	7	15	0
21	"	Solid, First	"	for Toilet	"	150	10	10	0
22	"	Second	"	"	"	100	5	6	0
23	"	First	"	for Nursery	"	200	7	17	0
24	"	Second	"	"	"	170	3	18	0
25	"	Brown, Fine	"	...	"	175	3	17	0

SELECTED SPONGES.

Honeycomb ...	...	...	...	...	per lb.	6/0, 8/0, 10/0, 12/0 and 0	15	0	0
" Small	...	...	...	...	per lb.	4/0 and 0	6	0	0
Turkey, Cup,	for the Bath, from 3 to 6 to the lb.	...	...	...	per lb.	30/0, 38/0 and 2	5	0	0
"	for the Toilet, from 8 to 18 to the lb.	...	...	...	"	30/0, 35/0 and 2	0	0	0
"	" fine, from 8 to 18 to the lb.	...	...	...	"	45/0, 50/0 and 3	0	0	0
"	for the Nursery, from 25 to 40 to the lb.	...	...	...	"	20/0, 25/0 and 1	10	0	0
" Eye	...	...	...	...	"	12/0, 16/0 and 1	0	0	0
" Solid,	for the Nursery, from 25 to 40 to the lb.	...	...	...	"	12/0, 16/0 and 1	0	0	0
"	for the Toilet, from 6 to 18 to the lb.	...	...	...	per lb.	12/0, 16/0, 20/0 and 1	5	0	0
"	Rough, suitable for Slates, &c.	per lb.	4/0, 6/0 and 0	8	0	0
" Carriage	per lb.	8/0, 12/0, 16/0 and 1	0	0	0
"	brown	per lb.	4/0, 6/0 and 0	8	0	0

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Relief label, every county in England, 8/ per doz.

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ESTABLISHED 1850.

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IN ORIGINAL CASES AS IMPORTED.

HONEY-COMB SPONGES.

Qty.		Pieces in case about.	£	s.	d.
1st	Finest selected shapes, assorted sizes ...	130	12	0	0
1st	Do. do. ...	75	7	0	0
1st	Do. do. ...	45	4	0	0
1st	Small selected shapes ...	275	7	0	0
1st	Superior do. large Bath sizes	25	7	0	0
2nd	Do. quality shapes, assorted sizes... ..	125	8	0	0
2nd	Do. do. do. ...	75	4	4	0
2nd	Good quality shapes, small ...	275	3	10	0
2nd	Do. do. large Bath sizes	25	5	0	0
3rd	Do. do. assorted sizes ...	145	5	5	0
3rd	Do. do. do. ...	90	3	10	0
3rd	Do. do. large Bath sizes	25	3	0	0
4th	For Stable use, &c. ...	125	1	5	0

FINE TURKEY SPONGES.

1st	Finest selected Cups, assorted sizes	110	18	0	0
1st	Do. do. do.	55	10	0	0
1st	Do. do. Bath sizes	35	12	0	0

Fine Turkey Sponges—continued.

No.	Qty.		Pieces in case about	Price case. £ s. d.
17	2nd	Superior Cups, assorted sizes ...	110	12 0 0
18	2nd	Do. do. ...	55	7 0 0
19	2nd	Do. Bath sizes ...	35	9 0 0
20	3rd	Fine Cups, assorted sizes ...	110	9 0 0
21	3rd	Do. do. ...	65	5 5 0
22	3rd	Do. Bath sizes ...	35	7 0 0
23	1st	Turkey Solids, assorted sizes ...	115	7 0 0
24	2nd	Do. do. ...	110	5 10 0
25	1st	Flat Saddle, assorted sizes ...	55	9 10 0
26	1st	Do. do. ...	35	6 0 0
27	2nd	Do. do. ...	55	6 5 0
28	2nd	Do. do. ...	35	4 0 0

BROWN TURKEY SPONGES.

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31	2nd Superior quality, do. ...	140	3	3	0
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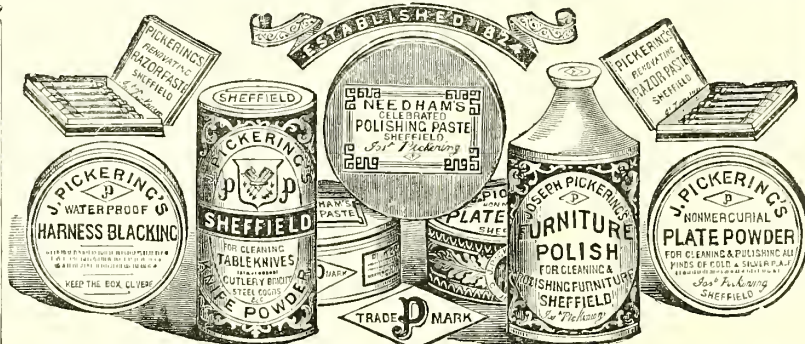
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(Signed),

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Public Analyst for the County of Stafford, Wolverhampton,
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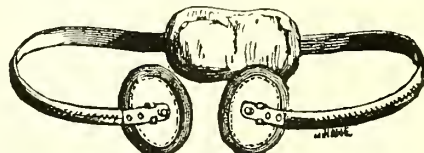
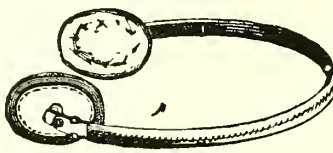
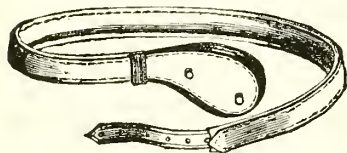
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Colour of Paint**

All Colours in 1, 2, 4, and 7 lbs.

VARNISHES OF ALL SORTS IN TINS OF ALL SIZES.



FIG. 5.



SUSPENSORY BANDAGES—continued.

No.			
6.	Silk Oxonian, superior quality, bands of buff jean, with drawing-strings	per doz.	£1 4 0
7.	Silk Bags, to button on, with tape under-straps	"	1 1 0
8.	" " " under-straps to button	"	1 4 0

ELASTIC STOCKINGS, KNEE-CAPS, ETC.

Manufactured expressly for Export, and warranted to stand a hot climate better than any others in the Market.

<i>Manufactured expressly for Export, and warranted to stand hot climate better than any others in the Market.</i>				Silk.	Super. Silk.	Cotton.	Super. Cotton.
				£ s. d.	£ s. d.	£ s. d.	£ s. d.
Stockings	..	..	pair	0 9 0	0 13 6	0 5 3	0 6 6
Knee-caps	..	..	..	0 6 0	0 9 6	0 3 6	0 5 0
Calf-pieces	..	..	..	0 6 8	0 9 0	0 4 0	0 5 6
Socks	..	..	..	0 5 0	0 7 6	0 3 3	0 4 6
Wristbands	..	..	..	0 2 0	—	1 6 0	0 2 0
Knee Stockings	..	..	..	0 15 0	1 8 0	0 8 9	0 11 6
Belts, to draw on	..	..	each	0 15 0	1 1 0	—	0 9 0

SUSPENSORY BANDAGES.

No.					
1.	Cotton Bags and tape under-straps ..	..	..	per doz.	0 8 0
2.	Cotton Oxonian, with drawing-strings ..	..	..	"	0 10 0
3.	Silk Bags and tape under-straps	"	1 1 0
4.	Silk Oxonian, with drawing-strings	"	0 18 0
5.	" " Bags bound with elastic	"	1 4 0

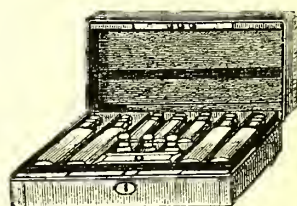
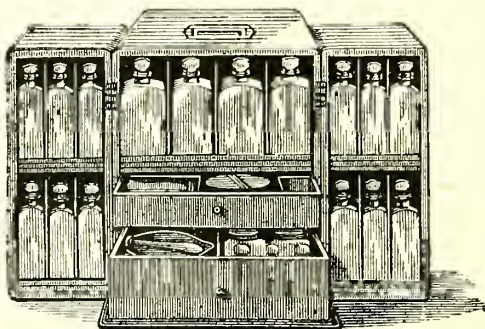
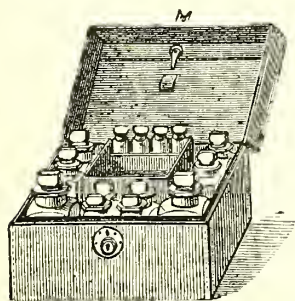
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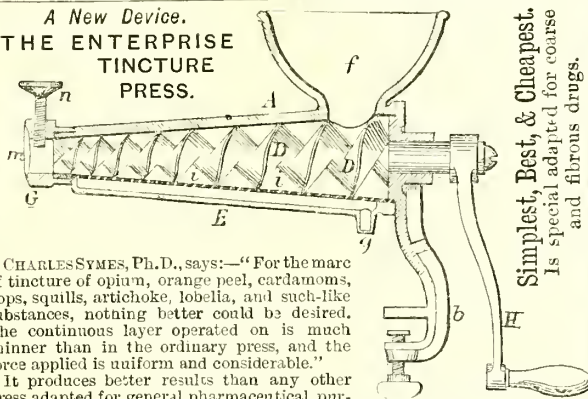
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PUBLISHER'S NOTICE.

FIRMS intending to issue a circular to the trade are invited to write to us. In July next we shall be able to circulate such to practically the whole British trade, at a cost to the advertiser much less than that of postage.



We have pleasure in announcing that during the past month we have received an order from the Pharmaceutical Society of New South Wales to supply THE CHEMIST AND DRUGGIST and THE CHEMISTS' AND DRUGGISTS' DIARY regularly to all the members of the Society. We have for some years past fulfilled a similar contract with the Pharmaceutical Society of Victoria, so that we may safely claim that for the cultivation of Australian business among chemists and druggists this journal must be an incomparable medium.

On Tuesday, May 17, at noon for 12.30, the fifth annual general meeting of the Chemists and Druggists' Trade Asso-

ciation will be held in the Banqueting-room of the Inns of Court Hotel, Lincoln's Inn Fields. On the same day the Exhibition of Pharmaceutical Apparatus will be open, and will continue on view during Wednesday and Thursday. On Wednesday it will be open for members of the Society only. A list of the exhibits will be found on coloured paper among our advertisements. On Wednesday at noon the annual meeting of the Pharmaceutical Society of Great Britain will be held in the Lecture Hall, 17 Bloomsbury Square. The annual dinner of the Society will take place at Willis's Rooms, at 6.30 P.M., on Tuesday night. The *conversazione* will be held in the South Kensington Museum at 8 P.M. on Wednesday, May 18. On Wednesday, May 25, a general meeting of the Chemists' Assistants' Association will be held at the rooms 32A George Street, Hanover Square, at 9 P.M.

Our information last month, that the Lord President of the Privy Council declined to submit the Pharmacy Bill to Parliament, was correct. He has, however, consented to receive a deputation from the Pharmaceutical Council to hear their views.

A Royal Commission has been appointed to inquire into the condition of medical legislation. In some quarters it is hoped that pharmaceutical grievances may be considered by this commission, and probably remedied.

By the death of Mr. John Mackay, of Edinburgh, British pharmacy has lost one of the most useful of its representatives. He died on April 19, in his sixty-third year.

Mr. James Robertson Young, 17 North Bridge, Edinburgh (of the firm of Macfarlan and Co.), has been appointed to the seat on the Pharmaceutical Council rendered vacant by the death of Mr. Mackay.

The very limited number of candidates willing to accept a seat on the Pharmaceutical Council, if elected, is naturally causing some consternation among members who think there still remains some useful work for the Council to accomplish. This year there are only sixteen candidates for the fourteen seats. The loss of Mr. Mackay by death, and of Messrs. Sandford and Hills by resignation, will seriously weaken the debating power in the Council.

A new Pharmacy Act for Jamaica has been passed, and will come into operation on July 1. It confines trade in drugs and medicines to certain licensed persons, but the exemptions are so numerous that it does not seem to grant any substantial monopoly. Any duly certificated British chemist and druggist is entitled to a license without examination (page 209).

The Executive Committee of the Chemists' and Druggists' Trade Association, Birmingham, have drawn up forms, and are getting them filled up both by wholesale and retail druggists, the object of which is to gather information respecting the rates charged by the various railway companies for the carriage of drugs, dysaltery, oils, mineral waters, &c. The information thus obtained will be tabulated, and if it should prove of sufficient importance, will probably be laid before the Select Committee of the House of Commons on Railway Rates. It is desirable that any druggist who has reason to complain will communicate with the Secretary of the Association, Burlington Chambers, Birmingham.

The Committee of the Pharmaceutical Council appointed to consider the relations of pharmaceutical education and pharmaceutical examinations have arrived at conclusions in favour of a curriculum. Their report is not yet fully before the trade, so that it is too early to comment upon it. But

they will have to show very strong reasons for their belief before the able arguments of Dr. Greenhow on the other side are overthrown.

The General Medical Council seem determined not to print a new Pharmacopœia until they have sold the 4,000 copies of the old one still on hand. Seven hundred copies are sold every year. Still, after a discussion, a Pharmacopœia Committee was appointed to report annually to the Council.

A British Association of Inspectors of Weights and Measures has been formed, and an inaugural meeting was held at Manchester on the 9th inst., with Mr. Councillor W. S. Brown in the chair. Reference was made both by the chairman and by the Manchester inspector to the difficulties attending the testing of apothecaries' measures.

A chemist at Birmingham received a formula ordering "two parts rhubarb and one part calcined magnesia." The writing was not very clear, and "calcined magnesia" was taken to be "calomel and magnesia." The result was the patient, who had copied the prescription from a book, was salivated. He valued his sufferings at 50*l*, but the County Court Judge who tried the case thought 15*l* was sufficient, out of which the plaintiff had to pay 12 guineas for medical attendance.

A chemist at Bridgewater has been fined 10*l* and costs, under the Sale of Food and Drugs Act, for dispensing a quinine mixture ordered by the medical officer of the Union, with only about one third the due proportion of quinine.

The doctor at Landport whom we reported last month as having attributed the death of a child to violet powder containing sulphate of lime, has since retracted that theory, and finds that the death was due to acute pemphigus. His conversion is apparently due to the testimony of Dr. Pavy, who was brought forward by Messrs. Hovenden, the makers of the powder. It is rather alarming to think that a tradesman's reputation, and perhaps his liberty, may depend on a local doctor's familiarity or otherwise with pemphigus.

Two chemists at Plymouth have been censured from the Bench for having bought drugs from strangers below their value. In each case plausible statements as to the manner in which the goods had been acquired were offered. They had, however, been stolen from the Government Medical Stores.

On May 11, Messrs. Cohen & Levy, trading under the title of Lewis & Co., one of the largest firms of Manchester, dealing in clothing, stationery, tobacco, tea, &c., were prosecuted by the Trade Association for selling vermin-killer without complying with the provisions of the Pharmacy Act. For the defence it was argued that poisons in mixture were not contemplated by the Act, but the defendants were fined 40*s*. and costs.

Three horses have died in Lincolnshire, and the groom confessed that he administered to them twice a week a teaspoonful of a mixture of cream of tartar, liver of antimony, diapente, elecampane, grains of paradise, and ground resin. The magistrates seem to have thought there was some connection between the deaths and the doses, and sentenced the groom to three weeks' hard labour.

In the London Bankruptcy Court a dividend meeting was held on the 3rd inst., in re Messrs. Huntley and Milner, wholesale druggists, of Bread Street Hill, whose bankruptcy occurred fifty-three years ago. A sum of over 2,000*l*. has turned up, which is to be divided among the creditors forthwith.

CORNER FOR STUDENTS.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

QUALITATIVE ANALYSIS.

A Mixture of salts will again form the subject of the exercise in qualitative analysis. The mixture is to be submitted to a thorough systematic examination designed to detect its constituents and to demonstrate the absence of all the substances. Students are required to send in a complete account of the analysis. A list is to be given of all the metals and of the acid radicles present, distinguishing those which may be regarded as accidental impurities.

Applications will be received up to May 20, and specimens will be forwarded on the 25th.

Students' reports will be received up to June 15.

REPORTS.

The mixture of salts submitted for analysis in March consisted of:—

						Parts
Potassium nitrate	..	..	..	..	..	5
Copper nitrate	..	..	..	..	..	1
Lead acetate	..	..	..	..	..	1

Iron and calcium were present as impurities.

It is remarkable that out of the large number of reports received this month there are few who can be said to have failed in the analysis, so far as the detection of the various constituents is concerned, but we find the greatest diversity of opinion as to the manner in which the constituents were combined, and the relative proportions in which they were present. It is true that without accurate qualitative determinations it would be practically impossible to form a trustworthy estimate of the relative proportions of the salts in such a mixture, but a certain amount of information as to quantities can always be obtained in the course of a qualitative analysis, and it is a mistake not to cultivate the habit of deducing from the reactions observed any information that would throw light on the actual composition of the substance under examination. In accurate analysis no single system is followed in separating and detaching the constituents of a complex substance. The analyst must always be guided by circumstances, and one of the principal considerations in determining the course to be adopted will be the relative quantities that have to be dealt with. In a qualitative analysis the information obtained in the preliminary dry examination is generally sufficient to afford a very good idea of the course to be followed in the subsequent work. But when, as is generally the case in actual practice, the qualitative analysis is to be followed by quantitative determinations it is most important to know which are the chief and which the minor constituents of the substance, as the methods to be employed in separating the various constituents will largely depend upon such considerations. In this exercise it was found at an early stage that lead must be one of the minor constituents, as the aqueous solution, unless it were concentrated, did not give a precipitate with hydrochloric acid; of course if a lead salt had predominated in the mixture such a precipitate would be obtained. Then in the case of copper it was evident from the reactions obtained that at any rate it was no more important as a constituent than lead, while in the case of potassium the least observant might have noticed that the residue remaining after the removal of the ammonium salts from the portion to be tested

for the alkali metals was large in comparison with the quantity of the original substance employed in the analysis. The natural inference was that a salt of one of the alkali metals predominated: that this metal was potassium there was no difficulty in deciding. In the case of the acid radicles there was a greater difficulty in distinguishing the principal constituent, but it is evident from the results of some of the more successful students that with due care a very correct opinion could be formed.

PRIZES.

The First Prize for the best analysis has been awarded to W. CYRIL BIRKS, 76 Petergate, York.

The Second Prize has been awarded to DONALD GRANT, Fortune Well, Portland.

Marks Awarded for Analyses.

W. Cyril Birks (first prize)	..	..	..	..	..	98
Donald Grant (second prize)	..	..	..	..	..	95
C. B. Miller ..	..	..	..	..	..	92
Caledonia ..	..	..	..	..	..	90
J. H. ..	..	..	..	..	..	90
Simon ..	..	..	..	..	..	90
J. H. Leech ..	..	..	..	..	..	88
J. C. Mitchell ..	..	..	..	..	..	85
Caryophyllus ..	..	..	..	..	..	83
R. W. F. ..	..	..	..	..	..	80
Audi Alteram Partem ..	..	..	..	..	..	80
E. M. ..	..	..	..	..	..	75
Glis ..	..	..	..	..	..	75
Fidus Achatas ..	..	..	..	..	..	75
Niohium ..	..	..	..	..	..	70
W. E. Cook ..	..	..	..	..	..	65
W. D. B. ..	..	..	..	..	..	65
Prospect ..	..	..	..	..	..	65
Lithium ..	..	..	..	..	..	60
J. F. Croshaw ..	..	..	..	..	..	50
W. Dodsworth ..	..	..	..	..	..	50
R. J. Macdermott ..	..	..	..	..	..	40
W. Miller ..	..	..	..	..	..	35
A. Burns ..	..	..	..	..	..	30

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

. All Communications should include the names and addresses of the writers.

Caryophyllus.—Your report is too brief to enable us to suggest the cause of omissions. There was quite enough calcium present to give a very decided reaction, provided the necessary precautions were taken.

R. W. F.—The nitric radicle formed a large part of the mixture of salts; the characteristic reactions were quite easily obtained. It will repay you to practise the sulphuric acid and ferrous sulphate test with solutions of nitrates of various strengths; the experiment requires careful manipulation.

Audi Alteram Partem.—You ought to have noticed the smell of the powder: it at once suggested acetic acid. Of course the fusion with sodium carbonate prevented you from obtaining any indication of this acid in your final tests.

E. M.—The precipitate which you attributed to calcium was no doubt due to sulphur. You must be careful to ensure the complete precipitation of each group by testing the filtrate by whatever reagent has been used. Your results also suggest that the washing of precipitates before examining them has not been fully attended to.

Fidus Achatas.—You appear to have been satisfied with the detection of copper in the sulphuretted hydrogen precipitate; you ought to have satisfied yourself that no other member of the group was present.

Niohium.—Although you observed the smell of acetic acid you passed it over without testing for it.

W. E. Cook.—You must have applied the platonic chloride test very carelessly; the potassium reaction was obtained with the greatest ease with only a small portion of the alkali metal residu.

Lithium.—It is perfectly clear, from the reactions you obtained with the filtrates from the sulphuretted hydrogen precipitate in the two examinations, that you had not completely precipitated the lead and copper. The precipitate attributed to aluminium was due to lead, and that attributed to nickel was due to copper.

W. Miller.—The accident was unfortunate, as you lost the principal constituent. You are sent a small quantity to compel you to be careful. In separating a very small precipitate you should employ a proportionately small filter. Instead of trying to scrape it off the paper you may dissolve it on the filter.

Pharmacalia.

BOTANICAL LECTURES.

ON Saturday morning, May 7, forty-two students met together at the Regent's Park Gardens to listen to Professor Bentley. This summer course of lectures forms the second part of the Botanical curriculum, the previous and introductory series being delivered at Bloomsbury Square. The student has now the chance, and a rare one it is, of leaving books, diagrams, and groundwork; and he is asked to study Nature out of her own book, and, in the home of flowers and plants, to become a practical adept in botany. The morning was bright and lovely; the students somewhat too demonstrative, and the lecturer enthusiastic, as is his wont.

It was his pleasure, he said, once again to meet his class in those gardens where an opportunity was offered for real work. On lecture days the students might enter as early as seven o'clock, and make their own notes; and an hour after lecture was devoted to special demonstrations conducted by himself. Tickets of admission would be granted on application, available at other times, and thus every facility would be accorded. Valuable as might be athletic sports, here steady botany was to be cultivated—that, and nothing else. The gardens were freely opened, but that was a privilege that should not be abused. He had lectured for over a quarter of a century without the necessity of finding fault, and he had no doubt that at the termination of this course he should be enabled to chronicle a like result. In the course of time those present must be scattered here and there, and engaged in the various duties of life; they could scarcely hope ever again to have sufficient leisure to familiarise themselves with the systematic study of flowers. Everything was open to their inspection and examination, not only in the out-door beds, where Mr. Higgings or an assistant would supply what they might want as specimens, but in the conservatories, where choice plants might be seen growing, though from their rareness specimens of them could not be permitted to be given.

In the previous lectures at the Square it had been pointed out that a plant had a number of parts—thus, in the Pelargonium might be observed root, stem, leaves, flowers, fruit, and seed. These were what were called organs, each with a particular function to perform. They were either elementary, the building materials for other organs, or they were compound. It would be the object of these morning demonstrations to describe all these minutely, and to apply the knowledge so gained to the discrimination of the Natural Orders. Special reference would be made to medicinal plants, and it was obvious that neither dried plants nor plates would be found sufficient, for the former lost many of their living characters, and the latter were not always good representations.

The root formed not a bad commencement, as it had so few modifications. It might be conical, cylindrical, or fusiform. The leaf was a sort of type of the other organs, and its study was strenuously to be urged. It was a flattened organ, larger generally and more developed than the rest. But though other parts might be smaller they were arranged on the same plan. The leaf consisted of two parts—a skeleton, the distribution of which formed the venation. The intermediate parts were filled up with little cells imbedded in soft portions containing green colouring matter. To the first the term fibro-vascular was attached; to the second, parenchyma or pulp. The mode of rising from the stem was to be noticed; the lower portion of the leaf was called the base, its opposite extremity the apex, and the connecting external part the margin. There were usually

which occasioned a perpetual movement and the commission of actions of which the mind retained no memory. But belladonna was the chief agent among these "sorcerers' herbs." Most of their remedies they administered in milk or honey, but they were also applied by friction in the form of pomades, and this mode of practice was known as the *magic unction*. Generally the object was to plunge the patients into a state of stupor, that they might forget for a while their sufferings and rejoice in fantastic dreams and hallucinations.

Bodiu, in his "Demonologie," relates seriously how a man of Angers having seen his wife rise in the night, and, after anointing herself, mount a broomstick and depart on an aerial voyage, rubbed himself with the same ointment, when he was at once transported by the same method of conveyance through the air, until he came into a strange place amid a multitude of weird men and women. Terrified, the poor man signed himself; then, with great cries, the whole lughurious company fled, and he found himself naked at the foot of Mount Vesuvius. From Naples to Angers he had to toil back on foot, and there arriving he denounced his wife as a witch, and she was burnt—doubtless an innocent victim of her husband's absurd nightmare.

André Laguna, physician to Pope Julius III. (1545), records that he obtained from a sorcerer some *magic unction*, which he applied to a poor woman afflicted with frenzy and insomnia, and he relates that she slept for 36 hours, all the while seeing joyful dances and hearing the sound of flutes and tambourines.

In more modern times we read how the priests of Mexico were in the habit of anointing their bodies with a foetid ointment before communicating with their deity. The ointment was composed in part of tobaeco and of a drug called by them *ololuehi*. This substance appears to have had the property of benumbing the sensibility.

No wonder that the sorcerers of the middle ages should have acquired such power over the imaginations of people ignorant and fanatic, and surrounded with real enough scourges. They proved their power to disturb the minds, to excite ferocious rage; or, on the other hand, to alleviate their pains, and to produce joyful visions. Their threats of leprosy, of blindness, and of death they could sometimes accomplish, and it is not surprising if the exact limits of their power were not accurately perceived.

At the commencement of modern times (sixteenth and seventeenth centuries) Italy undoubtedly held the first rank among modern nations in respect to arts, sciences, and letters. But beneath the brilliant exterior it is not difficult to trace the vices of refined corruption. Poison and the dagger were important factors in political life in Italy at that date, and the surname of Venenosa Italia was not undeserved. The Medici and the Borgias are not only distinguished in history for their lavish patronage of arts and literature, but also for intrigues and conspiracies, often of hideous criminality. In every district, too, rival houses carried on an almost eternal *vendetta*, so much the more fierce and bloody in that party strife was joined to personal jealousies.

Giambattista Porta was the author of a celebrated work on natural magic, which was really little else than a treatise on toxicology. This man had founded a sort of academy of medicine, which had been suppressed by Pope Paul IV. on the ground that illicit arts were taught and practised therein. In his book he tells us that he had travelled through France, Germany, and Spain, and had received great attention from several princes. On the subject of narcotics he distinguishes three well-marked effects in their action: narcotisation, temporary mental alienation, and death. Philters he describes as generally prepared from plants of the Solanaceae order. In a chapter devoted to cookery, he says that henbane, belladonna, and stramonium, reduced to powder and mixed with food, will produce strange hallucinations. The victims are apparently transformed into beasts: they will act browsing like oxen or swimming and diving like ducks. By means of belladonna he explains how the punishment of Tantalus may be veritably renewed, so that the gourmand, in presence of the most delicious dishes and delicate wines, is unable either to eat or drink. It is a dangerous jugglery that he recommends, however, for, if the poisonous principle of belladonna dissolved in wine can so violently contract the

pharynx as to arrest all power of deglutition, it must have brought the victim to only one stage short of actual death.

In his second hook he treats of magic unction, the base of which he describes as *solanum somniferum*. By this means he claims that human beings deprived of their material envelope are endowed with marvellous powers of aerial locomotion, and can find themselves almost instantly transported into the midst of scenes of witches' sabbaths and the like. It was by this unction he supposes that Circe changed the companions of Ulysses into pigs; and he tells us that the Italian witches, having attracted towards them too confiding travellers, made them eat a drugged cheese which caused them to fancy themselves beasts of burden. In this belief they did what work they were set to do, and when they had finished the labours required of them by the witches, they received an antidote which restored to them their primitive forms. According to Porta the narcotic employed by these witches was dulcamara.

There is nothing new in these accounts by Porta of herbs used by sorcerers for mental effects. Josephus speaks of the *baaras* employed by the Hebrew exorcists to drive out demons from the bodies of those possessed by them, and Elien describes this *baaras* as used to burn under the nose of persons to free them from the condition of hallucination into which they had been driven by certain deleterious plants. He describes it as a species of seaweed.

Among the other receipts given by Porta are mixtures for stupefying birds, by which they can be easily caught; and pills for narcotising wolves. The latter are composed of aconite, ground glass, quicklime, yellow arsenic, bitter almonds, and honey. But these are not the chief characteristics of his work. It is only just to him to say that his investigations on poisons and their antidotes are marked by careful observation and indicate a bright intelligence.

In one part of his treatise he gives a detailed description of a plant enjoying a great reputation among the Scythians, and which enabled them to support fatigue for several consecutive days without suffering hunger; possessed, in fact, of such properties as are attributed to coca. Acosta ("Hist. Naturelle des Indes," Lib. IV., ch. xxii.) mentions plants with this virtue, and names coca, or *Peruvian herb*; and long before, Avicenna was credited with the invention of certain pills about the size of beans, which were said to have the same effects.

From Italy magicians, philtermongers, astrologers, and "perfumers" passed in considerable numbers to France, and, under the Valois kings, flourished abundantly. They found apt pupils, and it is stated in the journal of L'Estoile, describing the execution of a sorceress named la Miraille, in 1587, that the number of sorcerers, diviners, philtermongers, and such-like criminals had so augmented during the reign of Charles IX. that their chief acknowledged to have had 30,000 accomplices in his art in Paris alone in 1572. The invention of printing helped to spread their fame, and one of the earliest uses of the printing press was to publish prophetic almanacs, which had great vogue.

These "perfumers" and astrologers attained great skill as poisoners. It is probable that the people were not wrong in attributing the death of Charles IX. to Ruggieri, whom Catherine de Medicis had brought to Paris; indeed, it was only by the intervention of Catherine herself that he was saved from execution. Arsenic was the poison commonly employed, and it was mixed with sweetmeats and administered in such graduated doses as often to deceive the most skillful physicians as to the cause of death.

During the sixteenth century Royal edicts were issued which forbade "all sorts of sorcery and magic, divinations, philters, invocations of demons, drinks to win love, enchantments to trouble the air or excite hail or tempests, to destroy the fruits of the earth or the milk of beasts, charms by ligatures, and generally all practice of the magical arts, mathematics, that is judicial astrology, auguries, predictions of the future, and interpretations of dreams." Those who "practice the diabolic arts" were to be "reputed execrable and treated as thieves;" they and those who consulted them were to be punished with death, and those who merely boasted of the power of predicting the future were to be flogged and driven from the town.

So widely was the fear of poisoning spread at this time that the practice of employing tasters even in private houses had largely extended.

Ambrose Paré wrote a special chapter on the antidotes to arsenical poisoning, and recommends, above all, theriaca in Malvoisey wine. The Roman physician Cæsalpin was the sworn enemy of chemical or rational physicians, as they called themselves, fearing, he said, always to find under that title the quality of a poisoner. He recommended that meats should be served on dishes of *electron*, which would tarnish if any poison were concealed in it.

Jerome Mercurialis, who had been a professor at Padua, wrote an important work on poisons and their antidotes, and the science of toxicology was also advanced by Ardouyn of Pisa, Fioraventi of Bologna, and others. Then came the era of experimental science inaugurated by Bacon. All countries contributed to human knowledge. The science of toxicology is especially indebted at this epoch to Van Helmont, Robert Boyle, and Glauber.

Towards the end of the seventeenth century chemistry was being better studied, but was still without fixed laws. Just at this time criminal poisoning reached throughout Europe, and particularly in France, the character of an epidemic. In Rome, 200 years before the Christian era, according to Livy, 150 young married women formed a society, under the presidency of Hieronima Sparra, to study and practise the art of poisoning. They aided many impatient heirs and weary wives, but were ultimately all arrested and banished, except Sparra, who was hanged. An almost similar scourge broke out in France under the reign of Louis XIV. Poisonings succeeded each other with such rapidity that justice was unable to keep up with them, and a special chamber was formed to deal with that crime. The cases of Brinvilliers, la Voisin, la Vigoureux, Exili, Gaudin de Ste.-Croix, and others became famous.

Marie Marguerite Dreux d'Aubry, Marquise de Brinvilliers, was the daughter of a civil lieutenant, who in 1651 had married the Marquis de Brinvilliers. Dissolute from her childhood, but beautiful and graceful, she formed the acquaintance of Gaudin de Ste.-Croix, a cavalry officer, and the result of the scandal was that he was removed to the Bastille. There he met with the Italian Exili, who was credited with having poisoned 150 persons at Rome during the pontificate of Innocent X., and from him he learnt the secrets of poisonous charms. On leaving prison he taught the mysteries he had learned to the Marchioness. She, for mere practice and curiosity's sake, and without any motive of hatred or revenge, poisoned her husband, servants, relatives, and numbers of poor people to whom she pretended to be charitable. By accident Gaudin suffocated himself, and a case was found on him containing packets of poisons addressed to the Marchioness, and letters attesting her crimes. She fled to Liège, but was taken by the French police, and on July 16, 1676, was burnt. Corrosive sublimate, opium, and arsenic were the poisons which were found in the case of Ste.-Croix addressed to her.

Soon after the case of la Vigoureux and la Voisin attracted attention. These women professed to sell essences, powders, and philters, and they had a large clientèle. Their house became a centre of intrigues and seductions, and suspicion, and at last proof indicated that they were resorted to by the victims of deceived love, by those eager for heritages, and by others weary of too-long wedlock. The trial of la Voisin for numberless poisoning crimes lasted 14 months, and resulted in her being burnt on July 22, 1680.

The Sicilian Tofana, who was believed to have taught Exili and most of the chief poisoners of the age their mysteries, was not brought to justice till 1709. He was believed to have counted more than 600 victims. The *Aqua Tofana*, or *Aquetta di Napoli*, as it was called, was a solution of white arsenic. Five or six drops were given at a time, and produced a slow but certain death. At his trial at Rome he would reveal his secret only to the Pope, and to the Emperor Charles VI., who was then in the city. The Emperor told it to his physician Garelli, by whom it was revealed to Hoffman, and published in the "Rational Medicine" of the latter.

The severe punishment of the poisoners at last stamped out the epidemic of crime, and the minds of people were quieted. The eighteenth century brought a great access of activity in scientific experiment, and before its close chemistry had come forth free from the superstitions and absurdities which had for so many centuries hindered its progress.

FORMULÆ OF SECRET MEDICINES.

The Formulæ given below are translated (by special permission of the author) from a German collection compiled by Mr. Edward Hahn, Apotheker. The names following most of the Formulæ are those of the authorities quoted for the analysis. The weights are almost invariably given in metric denominations. A gramme is equivalent to 15½ grains. The prices quoted are the nearest English equivalents to the original retail price.

[g. = grammes; p. = parts.]

SELENITE PERFECTIONNÉ (Paris).—An alkaline solution of lead acetate and nitrate.

SERAPION-ZELTCHEN—SERAPION TABLETS (Dr. Schlemm, Berlin).—A house cure for coughs, sore throats, and the like. Thirty tablets, weighing 90 g. each, in the shape of an hexagonal cylinder, covered with tinfoil. They consist of common dextrine, gum, and sugar, with a trace of infusion of pectoral tea and star anise. 1s.—*Hager*.

SERVESTA—A HAIR WASH (Nitsit).—Copper sulphate, .09 g.; zinc sulphate, .12 g.; water, 8 g.; ammonia carbonate, .9 g.; glycerine (common), 40 g.; spirit (60 per cent.), 80 g.; bergamot oil, a few drops. 125 g., 1s.—*Wittstein*.

SICCIN (C. Spitzmüller, Vienna).—To be placed in the nose to prevent cold and inhalation of dust or injurious substances. Rolls of cotton wool coloured red with aniline. .3 g., 1s.—*Pribram*.

SNOW-WHITE ORIENTAL CREAM, for whitening and beautifying the complexion (Phalou & Sons, New York).—A colourless fluid containing 50 per cent. of lead carbonate. —*Chandler*.

SOLUTION COIRÉE is a solution of freshly-precipitated calcium phosphate, washed and dissolved without exposure to the air in dilute hydrochloric acid.—*Hager*.

SOLVENT FOR FUR IN KETTLES (A. Stahl, Köln).—Calcined soda tinged with logwood. 50 kilos., 75s.

SOMMERSPROSSEN—FRECKLES—PRINCE AURENG-ZED' REMEDY, OR INDIAN EXTRACT.—An alcoholic tincture of pimpernel.

SOMMERSPROSSEN, HOFELD'S CURE.—I. White precipitate ointment, 15 g., with a little wax. II. A wash made of camphor, .25 g.; benzoin tincture, 8 g.; soap liniment, 15 g.; and rosewater, 125 g.—*Wittstein*.

—**E. KIMBALL'S CURE.**—Potassium acetate, 1; water, 50; dissolve, and add a little spirit and rose otto. 50 g., 1s.—*Hager*.

—**FROM THE APOTHEKE OF THE GOLDEN CROWN, MÄHRISCH-OSTRAN.**—A fluid and an ointment. The fluid is a solution of mercuric acetate, .5 g., in water 250 g. The ointment is a mixture of white precipitate, 2.25 g.; and pomade, 42.75 g. 2s.—*J.*

SALBE GEGEN SOMMERSPROSSEN — OINTMENT FOR FRECKLES (M. Riedl, Vienna).—About 30 g. brownish-yellow, soft ointment in a white porcelain pot with a tin cover. Paraffin, 18 g.; almond oil, 5 g.; melt together, and add milk of sulphur, .8 g.; glycerine, 4 g.; tannin, 1 g.; colocyntine tincture, 2 g.; rosemary oil, 10 drops; thyme oil, 5 drops. To be well rubbed into the face on going to bed, and to be washed off with soap in the morning. 2s.—*Hager*.

SOMMERSPROSSEN UND LEBERFLECKEN—FRECKLES AND SPOTS (Fr. Solbrig, München).—A tincture of white hellebore, 30 g.; arnica root, 30 g.; pellitory root, 30 g.; styrax calamita, 8 g.; alcohol, 500 g.; perfumed with bergamot and lemon oils. 30 g., 6½d.—*Bedall*.

SALBE GEGEN SOMMERSPROSSEN (from Vienna) is a 10 per cent. nitrate of mercury ointment.—*Wittstein*.

SOUSNITRATE DE BISMUTH, CRÈME DE BISMUTH DE QUESNEVILLE (Paris), is the undried precipitate of bismuth subnitrate put up in little pots and sold for dysentery, colic, &c.

greatest privileges of his life. It was true, as Mr. Sandford had said, that Mr. Mackay could only be known fully by seeing him in his family, where he was loved as only such a man could be loved. He was very glad the President had seen fit to attend the funeral; he should have certainly gone himself, only his own health at the time prevented him from doing so.

Mr. FRAZER said he could not be altogether silent on this occasion, though perhaps his silence would more eloquently testify his appreciation of his old friend. It was not easy for him to realise the loss. They had sat side by side since he (Mr. Frazer) had had a seat on the Council, and though their views had sometimes differed yet their friendship had never for an instant been broken or even endangered. Others had spoken of Mr. Mackay's great services to the Society. One remark he might add, that while Mr. Mackay's good sense always prevented him from parading his religious views, he never sought to disguise them. He should like to add, too, that he knew that the attendance of the President at the funeral had given intense satisfaction to Mr. Mackay's family, and also to the members of the Society in Scotland. They had the annual meeting of the North British branch within five hours of Mr. Mackay's death, and he could assure them that when the news reached them it was as though a thunderbolt had fallen in their midst. All seemed paralysed.

Messrs. Hampson and Williams also expressed the general grief.

The President's motion was then passed.

A NEW MEMBER OF COUNCIL.

The PRESIDENT said they had next to nominate a member of Council to take Mr. Mackay's place. He begged to propose Mr. James Robertson Young, of 17 North Bridge, Edinburgh, as a very suitable man, and one whom he knew would be acceptable to the North British branch.

Mr. FRAZER, seconding the proposal, said Mr. Young was a man of science and of judgment, and they would find him of great service on the Council.

The VICE-PRESIDENT wished to add that it was not from any hesitation on his part that he had not seconded the motion, but that he thought it would be more fitting that Mr. Frazer should do so.

The proposition was carried.

DEPUTATION OF EXAMINERS.

The SECRETARY reported that the Scotch Board had accepted the invitation to send members of their Board to attend the examinations in London in June, and had deputed Mr. Stephenson, the President of the Board, Mr. Borland, and Mr. Kinnimont.

THE ANNUAL REPORT.

With a few additions, was examined a last time, and passed for the printers.

THE ELECTION OF MEMBERS

Was next proceeded with. The following persons, whose names had been exhibited for a month in the library, were now elected as

HONORARY MEMBERS:

Dr. Lyon Playfair, M.P., C.B.
Professor Michael Foster, F.R.S.,
Cambridge

Professor Ruscow, Dorpat
Professor Attfield, F.R.S.

THE MEMORIAL TABLETS.

Arising out of the House Committee's report, some discussion followed respecting the tablets which it has been decided to place in the Society's rooms.

Concerning the one which is to bear the names of all those students who have taken first prizes, a list of names had been drawn up, but Mr. WILLIAMS pointed out that in that list names were repeated in cases where the same person had taken more than one prize. The object was to have a list of the prizemen, and not of the prizes they had taken. Mr. SCHACHT also explained, in reply to some other remarks, that about the years 1845-47 there were more first prizemen than since, because it was then thought not fair that those students who had attended the laboratory course should be put in competition with those who had only

attended the lectures. There were, therefore, two first prizemen in Chemistry. In 1845, as an example, he had taken the first prize in the Practical Chemistry class, and another gentleman had taken first prize in the Lecture class; but it was impossible to say which was the better of the two, because they had never come into competition. Mr. WILLIAMS asked were there then really 11 first prizemen in 1845. Mr. HAMPSON said there were giants in those days—a comment with which Mr. Schacht agreed.

The Benevolent Fund Memorial Tablet then came in for another long but not very important discussion. It had been decided to place upon it only names of donors of 20 guineas or upwards in one sum. In drawing up the list of names it was found that many names would not appear, though they had given much more than 20 guineas, but not all in one sum. Mr. WILLIAMS therefore moved a resolution which would have the effect of rescinding the former resolution of the Council, and permitting the insertion of the names of donors at the discretion of the Council when the sums they had given should have reached 20 guineas as individuals or 40 guineas as firms. Mr. SANDFORD opposed this motion, on the ground that the object of the tablet was to induce wealthy men to give large sums. To this it was replied that they also wished to encourage smaller donations as well. After one or two other amendments had been suggested and rejected, the following modification of Mr. Williams' proposal was adopted:—

That the list of names of donors to the Benevolent Fund to be placed on the proposed board include all names of those who have given 20 guineas or upwards, in the aggregate, in sums of not less than five guineas at any one time, before July 1, 1881, with the total amounts against each name.

That it be an instruction to the Benevolent Fund Committee to add to the list the names of donors of further amounts in sums of not less than five guineas at any one time, provided that no such amount shall be recorded until the donation amounts to the sum of 20 guineas in the aggregate.

That the same regulations shall hold good with respect to the names of firms giving donations, with the exception that the minimum amount be 40 guineas.

FINANCE.

The Committee's report, reporting receipts and recommending various payments, was read and adopted without comment.

BENEVOLENT FUND.

The Committee recommended nine gratuities in sums varying from 5*l.* to 16*l.*, the whole amounting to 66*l.* These recommendations were agreed to.

Mr. ATKINS, on behalf of a person who had been lately assisted, conveyed her thanks for the timely aid. Mr. SAVAGE brought under the notice of the Council an urgent case, and it was resolved to grant 10*l.*

THE LIBRARY, MUSEUM, AND LABORATORY COMMITTEE.

The usual details respecting attendance at the library, donations to the museum, and the Professors' reports, were included in this report. No discussion resulted.

THE PHARMACY ACT AMENDMENT COMMITTEE.

A letter was read from the Privy Council Office in reply to the letter from the Society with which a draft of the new Pharmacy Bill had been enclosed. The writer stated that the Society's letter and the draft bill had been submitted to the Lord President, who, after a review of the whole correspondence and a careful consideration of the proposed clauses, was not prepared to submit the Bill to Parliament.

To this the Secretary of the Pharmaceutical Society had replied, asking the Lord President to receive a small deputation from the Council. Subsequently a letter had been received, stating that the Lord President would receive the deputation after the meeting of the House of Lords in May, and that notice of a suitable day would be given.

The Committee had deferred the consideration of the letter from the Association of Patent Medicine Proprietors, and also the consideration of subjects to be laid before the Royal Commission.

The PRESIDENT said this would probably be a suitable time to take Mr. Hampson's motion in reference to

THE ROYAL COMMISSION ON MEDICINE.

Mr. HAMPSON therefore moved

That the Pharmacy Act Amendment Committee be empowered to represent this Council in respect to all matters they might think it necessary to bring before the Royal Commission appointed by the Queen to inquire into the operation of the Medical Acts, &c.

The Committee, he said, had at present no power to act; they were instructed to prepare subjects for submission to the Royal Commission and report to the Council. As the Commission would probably very soon begin their labours it was desirable that this Committee should have enlarged powers so that they could act promptly. The subjects, he supposed, on which they would ask to be heard by the Royal Commission were counter-prescribing and the preparation of a pharmacopœia.

The VICE-PRESIDENT seconded the motion, though he said he regarded it as somewhat unconstitutional. He would a great deal rather that the Committee should report to the Council before taking action, but he was afraid that, as the Commission was now gazetted, it would be hardly possible for this to be done. At the same time he, as a member of the Committee, would be anxious to do as little as possible except with the direct authority of the Council.

The PRESIDENT suggested that perhaps the same end might be attained without using exactly the word proposed. He thought to give a committee authority to represent the Council might make a dangerous precedent.

Mr. ROBBINS suggested that the words "in case of emergency" might be used.

Mr. ATKINS had sanguinely hoped that, when the names of the members of the Royal Commission came to be published, that of the President of the Pharmaceutical Society would be included. He was extremely disappointed that it did not appear. They certainly must entrust considerable if not plenary power to the Committee. All views were represented on that Committee, and he was quite willing to leave the matter in their hands.

The VICE-PRESIDENT said it was very desirable that whatever the Committee did or said should be with the full force of the whole Council, and therefore it seemed better that they should be authorised to represent the Council.

Mr. SQUIRE could not see more difficulty in calling together a special meeting of the Council, if required, than a special meeting of the Committee. The latter did not consist of London members only. It would only be calling together a few more members, and the subject was more likely to be better sifted.

Mr. SAVAGE suggested that the motion should delegate power to the Committee to act in case of emergency.

Mr. FRAZER said the Council had never laid down the lines on which the Committee could represent them. The Committee might watch the proceedings of the Commission, and call the Council together in case of emergency.

Mr. SYMES would support Mr. Hampson's motion. It was necessary that special action should be taken for the special occasion. If the Committee were not fully representative now was the time to add members. Merely watching the action of the Commission would not be sufficient.

Mr. WILLIAMS said it was well to remember that the Committee would expire altogether that day fortnight.

Mr. BOTTLE did not think the motion necessary. The Council would meet again in a fortnight, and he did not think the Commission would begin its sittings earlier. If it were absolutely necessary they might be called together earlier.

Mr. GOSTLING suggested some other verbal alterations in the motion with the object of meeting the views of those who feared to establish a precedent.

Mr. RICHARDSON was not prepared to vote for the motion. He agreed that if it were necessary to take immediate action it would be as easy to call the Council as the Committee together. It would be quite sufficient if the President and the Secretary would watch the course taken by the Commission, and they would be fully competent to judge when it was desirable to call a meeting of the Council. This was a most important crisis in the history of the trade, and he thought the whole Council ought to be summoned when steps were to be taken. He hoped the evidence taken before this Commission would result in a new start for pharmacy as

well as for medicine. Perhaps he held rather peculiar views, but he believed they were held by others over the country. He was not alone, he believed, in desiring to see one governing Board both for medicine and pharmacy.

The VICE-PRESIDENT said the President and Secretary would not be able to watch the proceedings of the Commission, because its sessions would be held with closed doors.

Mr. RICHARDSON asked how were the Committee to watch their proceedings then?

Mr. HAMPSON said the Committee would have to apply to be heard, and to formulate the subjects on which they should be heard. They would report to the Council always as they did now, and if the Council should consider that they had overstepped their powers, the authority could be taken from them.

Mr. ANDREWS said Mr. Richardson had seemed to express a half wish that pharmacy should be brought under the control of some medical board. He did not think such views should pass unchallenged. It would be a bad day for pharmacy when it was brought under the control of medical men.

Mr. RICHARDSON said he would not discuss that question then, but he might say that Mr. Andrews had entirely misunderstood him.

After some further discussion the following amendments were put to the Council:—

Mr. GOSTLING moved, and Mr. SANDFORD seconded,

That the Pharmacy Act Amendment Committee be empowered to act at their discretion on the part of the Council of this Society with regard to the Royal Commission on Medical Bills, and that they be instructed to take immediate steps for the proper representation of the Council before the Royal Commission in the event of opportunity arising for that purpose.

This was lost by 8 votes to 7.

Then Mr. SQUIRE moved, and Mr. BOTTLE seconded,

That the Council apply for leave to be heard before the Royal Commission, and a special meeting of the Council be called when leave has been obtained to be heard.

This was lost by 9 votes to 8.

Mr. Hampson's resolution was then carried.

THE EXHIBITION OF APPARATUS.

The report of this Committee showed that meetings had been held weekly, but that applications for space had not been so numerous as had been expected. The Committee had, therefore, thought it desirable to somewhat relax the conditions.

Mr. SYMES said it struck him the Committee had drawn the strings a little tightly. The circular issued seemed to indicate some stiffness.

The PRESIDENT, Mr. ROBBINS, and Mr. BUTT, as members of the Committee, explained what had been done, and protested against the implied charge of discouraging the exhibition. Mr. Butt said all the applications made had been accepted, except Messrs. Maw's proposal to send a dispensing counter, which was too large for any of their rooms.

PHARMACEUTICAL EXAMINATIONS AND PHARMACEUTICAL EDUCATION.

The VICE-PRESIDENT gave a summary of a report of the Committee which had been appointed to consider the relations of pharmaceutical education and pharmaceutical examinations. Copies of this report, he said, would be sent to all the members of Council within a few days, and he would suggest that it should be received now, and the discussion on it taken at a future time. The Committee had commenced their labours by defining their plans of inquiry. In pursuance of these they had had frequent and prolonged interviews with the three professors, with four examiners deputed by the Board, and with three gentlemen prominently engaged in scientific teaching. They had discussed and rediscussed the subjects of their inquiry, and they had drawn up various statistics. The conclusions the Committee had come to after considerable discussion were briefly these:—

1. That candidates for the Minor examination should be required to produce certificates of having been for three years in the service, or as a pupil, of a registered chemist and druggist.

2. That the Preliminary examination should have been passed by the candidate before that period could commence.

3. That candidates for the Minor examination should produce certificates of having attended at least one course of lectures on chemistry, one on botany, and one on materia medica, and should have attended a laboratory course.

4. That the Minor examination should in future be divided into two parts, the technical and the scientific, and should be taken on separate days.

Without going into the subjects then he would assure gentlemen that the Committee had gone into the matter most carefully, and that though the outcome of their deliberations might not be agreed with, the conclusions formulated were at least worthy of their careful consideration.

THE BOTANIC GARDENS.

A subscription of 20 guineas was voted to the Royal Botanic Gardens as usual, in order that Professor Bentley's class might have the advantage of study in the gardens.

THE PHARMACEUTICAL CONGRESS.

The Committee reported what had been done at the four meetings which had been held during the month. The names of Professor Redwood, Dr. Paul, and Messrs. Barelay, Carteghe, Reynolds, and Robbins had been added to it. Mr. Richard Bremridge had been appointed Secretary to the Executive Committee. It was proposed that the Congress should be opened by a *conferencia* to be held by the President of the Pharmaceutical Society, in the house of the Society, on the evening of Saturday, July 30.

Pharmaceutical Society of Ireland.

MEETING OF THE COUNCIL.

May 4, 1881.

PRESENT:—Professor Tichborne, President; Dr. Aquilla Smith, Vice-President; Sir G. B. Owens, Messrs. Allen, Brunker, Collins, Hayes, Hodgson, and Simpson.

The minutes having been read,

Mr. ALLEN asked why the Law Committee had not been summoned since last Council meeting, a case having been referred back to it?

Mr. FENNEL (Registrar) said he had not been directed to summon it.

Mr. BRUNKER said Mr. Hayes and himself had considered the matter. The gentleman who had reported the case had written to say that his witness would not come forward, and that he understood that the Council, when a case was reported, would undertake to obtain evidence; and having a difficulty in procuring an informer they considered it was useless to call the Committee until some person had been obtained to act as informer.

Mr. ALLEN objected to the work of the Committee being carried on by two or three members in an informal manner. The minutes were then confirmed.

The following letter from the Pharmaceutical Society of Great Britain was then read and ordered to be inserted upon the minutes:—

SIR,—I have to inform you that your letter of January 12, with proposed amendments of the Pharmacy Act (Ireland), was under the consideration of the Council of this Society at its meeting yesterday.

I am requested to say that the Council desires to express its sympathy with the efforts of the Pharmaceutical Society of Ireland to obtain amended legislation, but that in the absence of any special knowledge of the requirements of pharmacy in Ireland, the Council is unable to properly discuss the particular amendments now suggested.

I am, sir, yours faithfully,

ELIAS BREMBRIDGE, Secretary.

To J. E. Brunker, Esq., M.A.,
68 Grafton Street, Dublin.

Dr. AQUILLA SMITH called attention to the returns of the examiners, which he considered defective in one respect, that the results of the written portion of the examination were not, except in one of the subjects, given separately, so that the Council could not properly judge the results. He also considered that in one of the subjects the standard of the

questions was too low; at the same time he did not like interfering with the examiners, but he thought it proper to call the attention of the Council to the returns, which he thought might in future have an additional return of the marks awarded for the written portion, so as to separate them from those obtained at the *vicā voce* examination.

The PRESIDENT deprecated dictating to the examiners.

Sir G. B. OWENS agreed, and considered that when they had appointed examiners they ought to have every confidence in them, and suggested that the method of awarding marks might be improved.

Dr. COLLINS thought that the present method was not good.

Mr. HODGSON announced that the balance in bank to the credit of the Society was sufficiently large to admit of the withdrawal of 100% for investment, and gave notice of a motion to that effect for next Council meeting.

The meeting then adjourned.

Provincial Reports.

ALFRETON.

A DEFECTIVE SUMMONS.—At the Alfreton Petty Sessions, on April 14, Joseph Coates, grocer, Tibshelf, was charged with selling to George Tomlinson, on February 25, 2 oz. of sweet nitre, not of the nature and quality required.—Mr. H. R. Thorpe, of the firm of Thorpe and Thorpe, of Nottingham, defended, and pleaded at the commencement of the case that the summons was informal, and that the case was not, therefore, before the bench. It was required by section 10 of the Food and Drugs Amendment Act, 1879, that the name of the prosecutor be on the summons. In this case it was not. And he further urged that the bench could not amend the summons or issue a new one, as the 28 days allowed had expired.—Case accordingly dismissed.

BIRKENHEAD.

THE MEDICINAL QUALITIES OF THE SAP OF BIRCH TREES.—At the Police Court, on April 13, John White, a boy eleven years of age, was charged with wilfully and maliciously damaging eight birch trees, the property of Mr. J. P. Harris, of Dacre Hill.—A police-officer stated that in Mr. Harris's plantation, he saw the prisoner taking juice from some trees and putting it into bottles. All the birch trees in the plantation had been tapped.—Mr. Harris's gardener said the damage was 5*l.* or 6*l.* The trees were destroyed to a certain extent.—Mr. Pugh, for the defence, said the prisoner's mother came from Leicestershire, where an opinion prevailed that the sap of birch trees was good for consumption. The boy was remanded.

BIRMINGHAM.

BRANDY AT THE WORKHOUSE.—Not long ago the Board of Guardians on the suggestion of Dr. Mouat, one of the Local Government Board Inspectors, ordered that all the brandy supplied to the sick inmates should be medicated. According to the newspaper report, this was done by mixing 2½ ozs. of brandy with 3½ ozs. of "water and camphor." The medical officers were present when this resolution was adopted and made no objection. But on May 4, Mr. Tomes moved that the resolution be rescinded, and that the brandy be given when necessary in the ordinary way. He moved thus "on behalf of the sick, the aged, and the dying in the Workhouse. He had had some experience in preparing nauseous mixtures, but he did not think he had ever been guilty of preparing anything so repulsive to the taste as this abominable mixture of camphorated and diluted brandy."—Various opinions as to the taste of the mixture were expressed, but ultimately 29 voted for Mr. Tomes's resolution, 14 against, while 6 remained neutral.

THE COST OF SALVAGING A CUSTOMER.—At the Birmingham County Court, on April 14, Thomas Proctor, of Church Road, Aston, sued George Day Horton, chemist, Aston House, Aston Road, for 50*l.*, as damages caused to the plaintiff by the defendant's negligence in making up a wrong prescription. Mr. Stubbins (instructed by Messrs.

Unctt, Page & Fisher) appeared for the plaintiff, and Mr. Hugo Young (instructed by Mr. Fallows) for the defendant. On December 5 last the plaintiff was suffering from the gout, and he sent a prescription which he had copied from a book, to the defendant to be made up. The medicines ordered were "two parts rhubarb and one part calcined magnesia." The defendant read and dispensed rhubarb, calomel, and magnesia, instead of rhubarb and calcined magnesia, and in consequence of this by taking the medicine plaintiff was severely salivated, and had to consult a medical man. He was unwell for some time, and suffered very much. His Honour said he had no doubt the plaintiff's evidence was true, but he considered the amount claimed was too much. He would give a verdict for 15*l.*, including 12 guineas for medical attendance, with costs on the higher scale. [In reply to our inquiry Mr. Horton tells us that the recipe was written by a butcher, and was badly written, so that the word "calcined" looked more like "calomel." The medical man who attended the case at first read it as "calomel." The prescription was dispensed, he adds, at a branch shop, and not at the address given above.]

BRIDGEWATER.

INACCURATE DISPENSING.—Mr. William Henry Griffith, chemist and druggist, Cernhill, Bridgewater, was charged, on April 25, before the borough magistrates with having sold to the Guardians of the Bridgewater Union, and to their prejudice, a solution of sulphate of quinine not of the nature, substance, and quality demanded.

Mr. Cook, Town Clerk, prosecuted, and Mr. E. Barham appeared for the defendant.

The Town Clerk having quoted the sections of the Sale of Food and Drugs Act under which the prosecution was taken, explained that Mr. Griffith had entered into a contract with the guardians for the supply of drugs. On March 16 last, in consequence of a previous communication between Mr. Weller, one of the district medical officers of the union, residing at Westonzoyle, and Mr. Parsons, medical officer of health, Mr. Weller sent to Mr. Parsons a prescription as follows:—"Sulphate of quinine, 20 grains; diluted sulphuric acid, 25 drops; water to 10 oz." Mr. Parsons communicated with Mr. Parker, the borough inspector, and the prescription was afterwards taken to Mr. Griffith, the defendant, by a girl named Kierle, a daughter of the woman for whose use it was intended, and who was then, and had been for some time before, suffering from intermittent fever. The girl was followed into the shop by Mr. Parker, who entered just as the prescription had been made up, and the bottle was being handed to the girl by Mr. Griffith. Mr. Parker took the bottle, notifying that he was going to send a sample of it for analysis to the public analyst. He divided it into three parts, one part being left with Mr. Griffith, a second part being retained by Mr. Parker, and the third part, consisting of 3 oz., being sent to Mr. Stoddart for analysis. Mr. Stoddart's certificate, dated March 24, and addressed to Mr. Parker, was as follows:—"I, the undersigned public analyst, do hereby certify that I received on March 17, 1881, a sample of solution of sulphate of quinine for analysis, which then weighed 3 oz., and having analysed the same, I declare the result of my analysis to be as follows:—I am of opinion that it contains only '64 grain of sulphate of quinine instead of 2 grains in each fluid ounce." Mr. Cook added some comments on the flagrant character of the offence thus described.

This statement was supported by the evidence of Mr. Weller, who had written the prescription; Mr. Parsons, the medical officer of health; by Charlotte Kierle, the girl who took the prescription to the shop of the defendant; and by Mr. Parker, the borough inspector.

When the latter proposed to put in Mr. Stoddart's certificate Mr. Barham objected to it being produced as evidence, on the ground that it had not been obtained in pursuance of the directions of the Act of Parliament. His point was that the purchase had been made for the guardians, and that there was no proof that Mr. Parsons had any authority from them to institute these proceedings.

After a lengthy legal argument on this question the magistrate's clerk, addressing Mr. Barham, said, "Do you go into the merits at all?"

Mr. Barham replied in the negative, adding, however, that he would merely point out that whatever might be the

explanation of the matter it did not necessarily follow that there had been any of the flagrant conduct on the part of Mr. Griffith that had been spoken of by Mr. Cook. This Act of Parliament allowed some excuses, but it made no allowance for any mistake or error that might have been committed, and which would possibly relieve Mr. Griffith from any moral blame.

The magistrates retired for deliberation, and on their return into Court.

The Mayor said: The magistrates have gone into this matter thoroughly, and it is very painful for them to find a tradesman in the position of Mr. Griffith summoned here for such an offence. The penalty will be 10*l.* and costs.

Mr. Barham applied for a case to the Court above, and the application was acceded to.

Mr. Cook applied for the allowance of the usual fee in the event of the conviction being upheld, and this was also granted.

BRIGG.

HORSE POISONING.—At Brigg on May 3 Charles Shepherd was charged with wilfully administering poisonous drugs to his employer's horses. Defendant had been in the service of Mr. R. Wood, Melton, Highwood, near Brigg, as waggoner, and had the entire charge of four horses. On April 11 the foreman noticed that three of the animals were unwell, and a few days afterwards defendant told him that the horses were ill. Being suspicious he accused defendant of giving them poison, and defendant admitted that he had been administering a powder made up from a recipe, the ingredients of which were cream of tartar, liver of antimony, diapente, elecampane, grains of paradise, and ground rosin, and that he had been giving them a teaspoonful of this powder twice a week since the beginning of January, with the intention of improving their appetite. A veterinary surgeon was called in, but one horse died on April 16, and the other two on the following day. Two of the horses were valued at 60*l.* each, and one at 50*l.* The magistrates found the defendant guilty, and committed him to prison for 21 days' hard labour, and ordered him to pay the costs, 2*l.* 10*s.*

EDINBURGH.

CHEMISTS' ASSISTANTS' AND APPRENTICES' ASSOCIATION ANNUAL SUPPER.

THE fourth annual supper of the Association was held on the evening of April 14, at the Waterloo Hotel. There were about seventy gentlemen present. Mr. J. D. Robertson occupied the chair, and Messrs. Hutton and Hill officiated as croupiers. Supper being ended, the chairman gave the usual loyal and patriotic toasts, that of the Army, Navy, and Reserve Forces, being acknowledged by Mr. D. M. Brown.

In proposing "Success to the Association" the chairman referred to the encouragement the Association had received during the past session, especially in regard to increased membership, and greater interest in the meetings.

The membership was larger during the past session, than during any previous one, a proof that the educational and social advantages of the society were increasingly appreciated.

In proposing the "Royal Colleges of Physicians and Surgeons" Mr. P. Boa spoke of the benefits to be obtained from Edinburgh University. Pharmacists, did not, he feared, sufficiently avail themselves of its privileges. This was to be regretted, because, apart from the thorough instruction imparted within its walls, there were the noble associations connected with it, which were calculated to kindle in sensitive minds an enthusiasm which might produce good fruit in after years. Although attendance at any of its classes was not compulsory for the examinations of the Pharmaceutical Society, yet the opinion that such should be the case was gaining ground, and he hoped in a few years to see the triumph of that idea. The relations existing between medical men and pharmacists were as a rule of a friendly kind. There was one thing in which he would like to see the co-operation of a medical man and a pharmacist, and that was in the production of a manual of materia medica, which, while giving the usual outline of the therapeutic properties and doses of drugs, should at the same time give a fair representation of the most recent improvements in their pharmaceutical manipulation.

The toast was acknowledged by Dr. Wm. Craig.

The "North British Branch" was proposed by Mr. Hill, who, referring to the Pharmacy Act Amendment Bill said that the council in London had gone completely out of their way in making an attempt, in the first clause of that Bill, to denationalize the Scotch Board of Examiners. There were at least three good reasons why such an attempt should not have been made. Firstly, it was entirely uncalled for, secondly, it was repugnant to those feelings of sturdy independence which formed a characteristic feature of Scotchmen, and thirdly, we feared a revival of that spirit of centralization which threatened at one time to deprive us of a council and board of examiners at all. In these, and other matters to which he referred, they looked to the North British Branch to guard their interests, and they believed they would not disappoint them.

The toast was briefly acknowledged by Mr. D. Maclaren. The other toasts were "The Office-bearers," by Dr. Craig; "Pharmacists," by Mr. Hutton; "The Ladies," by Mr. Thomson, and "The Chairman and Croupiers," by Mr. Edington.

The evening's proceedings were enlivened by numerous songs and recitations by members of the Association and friends.

GLASGOW.

CHEMISTS AND DRUGGISTS' ASSOCIATION.

THE annual general meeting was held in Anderson's College on May 4, and in the absence of the President, the Vice-President, Mr. Robert Brodie, took the chair.

The Secretary, Mr. J. C. Hunter, read the following report of the transactions of the Society for the session 1880-81:—

"During the session about to close we have had papers read by Messrs. Walker, Kinninmont, Gilmour, Paterson, Clarke, and Hunter, on various subjects of interest, abstracts of which appeared in the *Pharmaceutical Journal* and *THE CHEMIST AND DRUGGIST*. The meetings have not been so well attended, whether on account of the severe winter, or from the apathy of the members, who cannot apparently spare one night per month in the interest of the trade, it is not for me to say; be that as it may, those who attended were well pleased with the various papers read, which enabled them to exchange ideas on the topics discussed.

"There was no educational business in connection with the Society this session, but a general meeting of the trade, called by public advertisement in the newspapers, was held in Anderson's College to discuss what steps were required with reference to the proposed Pharmacy Act Amendment Bill.

"At that meeting the Bill was discussed, and a number of resolutions were drawn up and transmitted to the President of the Pharmaceutical Society to be read at the Council meeting on the day that the proposed Bill was to be debated upon by them; the resolutions appeared in the *Pharmaceutical Journal* along with the discussion in the London Council on the draft of the proposed Bill.

"The London Council, in deference to the wishes of the Scotch members, agreed that the Scotch examiners should be selected as formerly, from Scotland only.

"This was all the business of importance during the session now closing."

Mr. Maltman, Treasurer, then submitted his financial statement, which showed a balance in favour of the Society of 14*l.* 16*s.*, including a balance of 3*l.* 8*s.* 9*d.* from the library fund.

Mr. J. A. Clarke, Librarian, gave in his statement of the books perused by the members during the session, and as convener of the price-list committee he intimated that he had a balance of cash on hand from sale of price-lists during the session, after deducting expenses of 4*l.* 13*s.*

Mr. Illingworth, secretary assistants' section, also read his report of work done during the session.

The reports were adopted, and votes of thanks to the office-bearers were awarded.

Mr. Robert Brodie in his closing remarks alluded to the loss the Pharmaceutical Society had sustained in the death of Mr. John Mackay, who so long and ably filled the position of honorary secretary to the North British Branch of the Society in Edinburgh. Mr. Kinninmont endorsed in a few words what Mr. Brodie had said with reference to his late friend and colleague.

Owing to the lateness of the hour Mr. Clarke moved the

adjournment of the meeting and the postponement of the election of president and office-bearers for the ensuing session. This course was approved, and the meeting was adjourned accordingly *sine die*.

ADULTERATION OF CHEMICAL FOOD.—On April 19, before Sheriff Balfour, in Chambers, Dr. James Downie, F.R.P.S., &c., carrying on business as a chemist in Abercromby Street, was charged under the Foods and Drugs Act with selling a bottle of chemical food to Mr. Inglis, one of the sanitary inspectors, a teaspoonful of which contained .47 grain of phosphate of iron, and .36 grain of phosphate of lime, whereas it should have contained 2½ grains of phosphate of iron and 1 grain of phosphate of lime. For the defence it was stated that the shop did not belong to Dr. Downie. He took the premises from Whitsunday, 1879-80, but he was not aware in whose name it was taken from 1880-81, and he had not been in the shop for the past sixteen months, nor had he ever derived a single penny of profit from the business. The only benefit he received was the use of a room for the purpose of consulting his patients. After evidence had been led, the Sheriff found the charge proven, and imposed a penalty of 3*l.*, with 1*l.* 7*s.* 4*d.* of expenses.

CONVICTION UNDER THE FOOD AND DRUGS ACT.—Samuel Douglas, provision dealer, 88 Dundas Street, Glasgow, was charged before Sheriff Balfour in Chambers, April 28, with selling, on March 4, a bottle which was represented to contain malt vinegar, but which on analysis by Mr. Tatlock, the city analyst, was found to contain none of the ingredients essential to malt vinegar, with the exception of 2-40 per cent. of glacial acetic acid and some saccharine matter. He pleaded "Not guilty." Mr. Ross, writer, prosecuted on behalf of the Local Authority, and Mr. Cullen appeared for the defence. Two sanitary inspectors, Messrs. Armstrong and Inglis, spoke to purchasing the bottle of "malt vinegar," the price they paid being 6*d.* Mrs. Douglas, wife of the accused, stated in defence that she sold the bottle to the officers for common vinegar, and that she never intended to pass it off for malt vinegar. The label bore that the bottle contained "Messer's superior vinegar." Sheriff Balfour found the charge proven. He imposed a fine of 30*s.*, without expenses.

HAMILTON, N.B.

AN epidemic of dog poisoning has affected the borough. Between April 16 and April 23 nearly a score of valuable pet dogs died from strychnine poisoning. Until two years ago dog poisoning was very prevalent here.

LANDPORT.

ALLEGED DEATH FROM THE USE OF ADULTERATED VIOLET POWDER.—The first inquiry into the cause of the death of the infant child of Henry Williams, which was held on April 8, was briefly reported in our last issue. Dr. James Green then attributed the death to the extensive inflammation of the skin produced by the application of impure violet powder.

The adjourned inquiry was held on April 22. The proceedings were watched by Mr. R. W. Ford, on behalf of Mr. Timothy White, chemist, of the Commercial Road, the vendor of the powder, and by Mr. Wild (Messrs. Wild, Brown & Wild, of London) on behalf of Messrs. Hovenden & Co., the manufacturers of the powder.

Dr. James Green was recalled, and he said that since the last inquiry he had had his attention called by Dr. Pavy to an article in the *Medical Times and Gazette* of December 5, 1874, with reference to pemphigus in newly-born children, and the symptoms as there described so closely resembled the appearances presented by the deceased child that he felt bound to alter his opinion that the death of the child was due to extensive inflammation of the skin caused by the application of impure violet powder. He now attributed death to acute pemphigus. He would like to say for his own justification that the disease described in the ordinary text-books under that name did not at all resemble, except in the slightest degree, the appearance presented by the child, who had the disease in its most severe form. At first he suspected that the violet powder contained arsenic, and afterwards that it contained plaster of Paris. He would expect similar symptoms to follow the use of plaster of Paris. He now understood that the powder contained

sulphate of lime. He had had no experience of the effects of this substance. There was no medical formula for the preparation of violet powder. It was supposed to consist of powdered orris root, starch, and a little essential oil. It sometimes consisted of other articles, such as powdered alabaster. He now believed that the use of the violet powder was not the cause of the child's death, but that it had died from natural causes.

Dr. Walter John Sykes, medical officer and public analyst for Portsmouth, stated that the father of the deceased handed him a packet containing violet powder. There was about $\frac{1}{4}$ oz. left in the box, on which was a label, "Highly-perfumed Violet Powder, for the Nursery and Toilet; A. R. Hovenden & Co." He subjected it to qualitative and quantitative analyses, and found 63 per cent. crystallised sulphate of lime. In a second packet, bought by the father, he found 20 per cent. of sulphate of lime. He had never heard of any ill effects from using violet powder, except in one case, in which arsenic had been accidentally mixed with it. What would be the effect of sulphate of lime on the skin of an infant was a question of experience, and he had had none. He had always understood that violet powder consisted of orris powder, starch, and perfume, and this is what he would expect to get at a chemist's. Personally, he would not use violet powder containing sulphate of lime for a young child.

Mr. Frederick Hovenden, of the firm of Hovenden & Co., said he carried on business with his two brothers as wholesale perfumers and dealers in London. They had manufactured violet powder for nearly 40 years, and they sold 10 to 20 tons yearly. They had always used one receipt, viz., 25 per cent. of terra alba, or sulphate of lime, and 75 per cent. of maize starch, with a little orris powder and perfume. During the 29 years he himself had been in the business they had never had a single complaint of the effect of the powder; and he used it in his own household. Sulphate of lime was not an irritant; if it were he should not use it, having regard to his commercial reputation. About two years ago they thought of altering their receipt, but determined to continue the sulphate of lime on account of its advantages, as it was much superior to simple starch, the latter being decomposable, and the other not. Terra alba was also whiter, was considered a better absorbent and desiccant, improved the quality of starch, and was smaller in its granules than at least Indian corn starch, and, combined with starch, adhered better to the skin than starch used alone. The name of the powder did not apply to the composition of the article, and there was no recognised formula for its manufacture.

Dr. F. W. Pavy, of 35 Grosvenor Street, London, F.R.S., F.R.C.P., and physician to and lecturer on the practice of medicine at Guy's Hospital, said he had a description given to him of the case of the deceased child by Dr. Green, and he had also interrogated the nurse and the mother. He was of opinion that the child died from acute pemphigus—a disease which in the form presented in this child is of rare occurrence, and only imperfectly, or confusedly, described in ordinary text-books, and only to be found fully described in scattered medical writings. He was also of opinion that the violet powder used had nothing whatever to do with the production of the affection from which the infant died. He considered terra alba, or native sulphate of lime, a harmless, neutral substance, devoid of irritating properties. It might be admixed with starch in a violet powder without the slightest danger. He learned three days before that Hovenden's violet powder had been used in his own household during some years, and preferred to any other. No ill effects have been suffered from its use. As he thought this might be a matter open to personal observation, he applied some pure sulphate of lime to one arm and to the other a portion of the violet powder which was used upon the infant, keeping them closely and continuously strapped down for three days; he now removed the substances, and on neither arm was there the slightest redness or irritation. He thought the use of sulphate of lime in violet powder had its advantages. He should not have the slightest hesitation in using the powder for any child of his own, however young it might be or tender its skin.

Dr. Thomas Stevenson, lecturer on chemistry and medical jurisprudence at Guy's Hospital, stated that he received from Dr. Pavy some terra alba which he had obtained from

Mr. Hovenden and a packet of violet powder. He also went and bought a packet himself, he being a total stranger to the firm. He found the terra alba to be pure crystallised sulphate of lime, very finely ground, containing no deleterious substance whatever, being neutral and inert. It was essentially different from plaster of Paris, the latter being sulphate of lime deprived of roasting of one-quarter of its weight of water, and deprived in this way of its crystals. Sulphate of lime was perfectly harmless to the skin, and would not act on unbroken skin, if finely ground, but plaster of Paris would irritate broken skin and chafe it on account of its powerful affinity for water. There was no plaster of Paris in any of the packets he examined; and he had never met with any in any violet powder. He found the violet powder given him by Dr. Pavy contained 21 per cent. of terra alba, 1 per cent. of orris root, and the rest pure maize starch.

The coroner summed up the evidence, and after ten minutes' deliberation the jury returned a verdict of "Death from Natural Causes."

One of the local journals, commenting on the case, alluded to the creditable candour with which Dr. Green admitted that he had changed his opinion as to the cause of death. It goes on to say, "For his second opinion as to the cause of death Dr. Green seems to have been indebted to Dr. Pavy, of Guy's Hospital, a physician of great eminence; and the harmlessness of the powder was conclusively established by Dr. Stevenson, one of the first analytical chemists in the country. But one course, therefore, was open to the jury—the return of a verdict in favour of the chemist. But what might have been the result had the vendor of the powder been less competent to meet the original evidence of the local doctor? Every druggist is not in a position to consult such men as Dr. Pavy and Dr. Stevenson. But without their evidence Dr. Green might still have believed that this child was killed by violet powder, and the business of Mr. White might have sustained very serious injury, even had he himself been fortunate enough to escape a verdict of 'Manslaughter.'"

LEEDS.

FIRE.—On May 3 a fire broke out on the premises of Mr. Richard Varley, drysalter and dyewood cutter, myrobalans grinder, &c., Globe Mills, Hunslet Road. The fire had commenced in a small building used for grinding myrobalans. The damage will probably amount to between 200*l.* and 300*l.*, covered by insurance.

MANCHESTER.

IMPORTANT PROSECUTION OF A CHEAP MEDICINE FIRM. At the Manchester City Police Court on May 11, before Mr. Francis J. Headlam, Messrs. Lewis & Co., of Manchester & Liverpool, were summoned under the Sale of Poisons and Pharmacy Act, 1868, for that they severally did unlawfully sell to George Revill Templeman a certain poison, to wit, strychnine, in a certain packet, the cover of which packet did not set forth the name and address of the sellers of the same; and further that he, the said George Revill Templeman, at the time the sale was effected, was unknown to the said sellers, contrary to the statute in such case made and provided. Mr. Glaisyer, of Birmingham, appeared on behalf of the prosecutors, the Chemists and Druggists' Trade Association of Great Britain, and Mr. Wm. Cobbett, solicitor, Manchester, defended.

Messrs. Lewis's firm is one of the largest establishments in Manchester, and in addition to a clothing, hat, boot, stationery, sweets, tobacco, umbrella, and tea departments, a great effort has been made to introduce a patent medicine department at prices below those marked on the labels.

Mr. Glaisyer said that the prosecutor was Mr. Templeman, assistant-secretary of the Association, and the defendants, Messrs. Cohen & Levy, better known as Messrs. Lewis, appeared not to be content with a very large and legitimate business, but also dealt in poisons, which the Act of Parliament said they had no business to deal in unless they observed the restrictions laid down. Having read the 17th section of the Pharmacy Act, 1868, which specifies the conditions under which poisons may be sold, he said: On April 5 Mr. Templeman went to the defendant's shop in Market Street, Man-

chester, and there purchased one packet of Hunter's vermin-killer, which, on being analysed by the prosecutor, was found to contain strychnine, which was a poison, and Mr. Templeman was unknown to the seller at the time, he was not introduced to them by anyone, and the name and address of the sellers did not appear on the packet. Mr. Glaisyer said that the defendants had not thus carried out the provisions of the Act of Parliament.

Mr. Templeman, on being called, said that he resided at Birmingham and was assistant-secretary to the society mentioned. He purchased a packet of mice poison from the defendant's shop on April 5, which he afterwards found to contain strychnine. In cross-examination, witness said that he was not a registered chemist, but had served his apprenticeship. The strychnine appeared to be mixed with rice powder and then coloured blue. The Chemists' Trade Association undertook to prevent infringements of the Act, and to protect trade interests in general.

Mr. Cobbett, in defence, argued that the poisons which the Act was meant to deal with were specifically mentioned in the schedule; and if the bench would refer to the second section in the Act Mr. Headlam would find several articles mentioned or described which should be deemed to be poisons within the meaning of the Act. Throughout the whole Act of Parliament, except where it was specifically mentioned, he did not find anything whatever to show that a mixture of poisons with other matters was poison within the meaning of the Act. The meaning for this was a very obvious one, as there were poisons which they all knew were mixed with every variety of articles without causing any injury to health, and these were sold, probably, without any knowledge on the part of the seller of what the contents really were. His contention was that the Act of Parliament did not apply to poisons mixed with other articles, but only with poisons themselves; and in support of this he would quote the case of "Bury v. Henderson," reported in 22 Law Times Reports, new series, page 331; and in that instance, where a duly registered chemist had made up a prescription of rose-water and prussic acid, without carrying out the whole of the provisions of the Act, the judgment of the present Lord Justice Lush was that the Act seemed to relate to poisons as being sold in their simple state, or in a state of preparation, and did not contemplate their being mixed up with any other ingredients; they must be pure and simple. That was his contention for the present case.

Mr. Headlam said that there was the word "Poison" marked on the packet, and after a lengthy interval the stipendiary said that it was his opinion that the defendants came within the Act of Parliament.

Mr. Cobbett said that his clients had taken all reasonable precautions to carry out the provisions of the Act of Parliament, and they were not aware that they were in any way breaking the law.

The Magistrates' Clerk said that the full penalty was 5*l.* and costs.

Mr. Headlam said that a fine of 10*s.* and costs would be imposed.

Mr. Glaisyer applied for his costs to be paid.

Mr. Cobbett: A trades union can pay its own costs.

The defendants were eventually ordered to pay the costs of the prosecution.

THE TESTING OF APOTHECARIES' WEIGHTS AND MEASURES.—At the inaugural meetings of the British Association of Inspectors of Weights and Measures, held at the Town Hall, Manchester, on May 9, the present method of testing apothecaries' weights and measures was specially referred to. The chairman (Councillor W. S. Brown, of Manchester) said, by the Act recently passed new classes of weights and measures had been brought under the jurisdiction of the inspector, which would perhaps require more attention and more direct care than they had hitherto been called upon to exercise. He referred especially to the troy bullion weights and to the glass measures used by apothecaries and chemists and druggists. This had already led to some difficulty; but he hoped the carrying out of the objects of the Association would prevent anything of the sort in future. Mr. T. Wilmhurst, inspector of weights and measures, Manchester, also touched upon the same matter in the course of a paper which he subsequently read before the Association. The inspection of apothecaries' weights and measures, he said, required great care, and often in a druggist's shop

it was a difficult matter to find a suitable place for testing them. The case of glass measures recently tried in London was not satisfactory, because it did not give a direct answer as to whether such deficiencies as were admitted were legal or not, but left it to the discretion of inspectors. How to test glass measures, whether to take the top, bottom, or centre of the meniscus, was an open question, and would, he feared, lead to several cases before being finally settled. The verifying of the apothecaries' troy, bullion, and decimal grain weights should also be performed with the utmost care, and in a different room to that which was used for the ordinary weights. He had seen an inspector try troy weights in a room, on a counter between two doors, and in an ordinary 4-lb. scale, and he had often found new troy weights both light and heavy in a set from 5 oz. down to .001 oz. The comparing of apothecaries' graduated glass measures required very much care, and in some offices where he had seen them testing such measures, the results, in his opinion, were simply misleading. The measures were tried certainly, but that was all he could say. At the conclusion of the proceedings, W. S. Brown, of Manchester, was elected President of the Association.

NOTTINGHAM.

NOTTINGHAM AND NOTTS CHEMISTS' ASSOCIATION.—The usual monthly meeting was held on April 26, the President, Mr. R. FitzHugh, F.C.S., in the chair. Mr. P. L. Rothera, B.A., gave a very interesting lecture on "Some Interesting Relationships existing between Plants and Animals." The paper was an answer to two questions which have recently been asked in connection with the Science examinations, viz., "What advantage is it to plants to have irregular flowers?" and "What contrivances are found amongst flowers for preventing access of insects?" In answering the former question, the lecturer first described a perfect flower, then several kinds of irregular ones; he then based his remarks chiefly on Darwin's researches, proving that fertilisation was chiefly carried on by certain insects in search of honey, carrying with them the pollen from one flower to another, and not so much by the generating organs of one flower fertilising itself. He then showed that the irregular forms of flowers were such as to facilitate not only the entrance of the insects into the flowers, but also that the pollen should be so deposited on these insects in a proper and convenient form as to be transmitted to the ova of others, thus causing cross fertilisation. In answering the second question the lecturer showed that whilst it was advantageous to the flower that certain insects should have access to it, it was also advantageous that others should not have such access; nature, therefore, provided certain contrivances, such as hairs, viscid secretions, or receptacles for water, &c., to prevent such insects as ants, slugs, &c., gaining admission to them. The lecture, which was fully illustrated by diagrams, was listened to with much interest. At the conclusion a unanimous vote of thanks was accorded to Mr. Rothera.

PLYMOUTH.

BUYING STOLEN MEDICAL STORES.—Two privates of the Royal Marines, and a marine-store dealer, were tried before the Stonehouse magistrates on April 16, charged with having stolen medicines, such as quinine, castor and cod-liver oils, juice of hemlock, carbolic acid, sticking plaster, &c., from the Royal Marine Infirmary. One of the marines and the dealer had been to Mr. P. C. Maitland, chemist, Chapel Street, who had bought some cod-liver and castor oil from them for 37*s.*, after having been told that they had bought the goods from a passenger ship in the docks. In the other case a sale of various goods had been made by a marine to an assistant at the shop of Mr. Netten, on the pretence that he had been servant to a doctor at Malta, who had given him these articles on leaving. The assistant gave the man 1*l.* for the goods. The magistrates commented rather severely on both transactions. Two of the prisoners were committed for trial, and the other dealt with summarily.

PRESTON.

PHARMACEUTICAL STUDENTS' SOCIETY.—A meeting was held on April 22, Mr. T. H. Greenall (President) in the chair. A paper was read by Mr. S. J. Elliott on "Some of the Arrangements which ensure the Cross Fertilisation of Plants by the Visits of Insects." It was announced that the follow-

ing donation had been received:—Materia medica cabinet, and Southall's "Organic Materia Medica," from Messrs. Southall Bros. & Barclay.

SHEFFIELD.

ADULTERATED CAYENNE.—At the Sheffield Town Hall on April 20, William Bingham, grocer, of St. Philip's road, appeared in answer to a summons charging him with having sold to Patrick O'Connor, inspector of nuisances, two ounces of cayenne pepper, not of the nature, substance, and quality demanded by the purchaser, on March 24. The defendant admitted having sold the pepper to the inspector, but denied all knowledge that it was adulterated, saying that it was in the same condition as when purchased by him ten years ago from a London firm, which had since become bankrupt.—Mr. Ycomans, the town clerk, who prosecuted, said the pepper had been submitted to Mr. A. H. Allen, the borough analyst, by whom it had been analysed. Mr. Allen's certificate showed the pepper to contain 6 per cent. of lead—probably red-lead.—The magistrates took a lenient view of the case, and ordered the withdrawal of the summons on payment of the costs.

WIGAN.

AN EXPLOSIVE MIXTURE.—On April 28 an explosion of an extraordinary nature occurred at the shop of Mr. Field, druggist, Scholes, Wigan. A woman went to the shop and asked the assistant for a mixture of spirits of nitre and vitriol. The assistant declined at first to supply the mixture, stating that the spirits would burst the bottle and that she would get badly burnt. The applicant said she had procured the mixture before for cleaning buttons and clothing, and pressed the assistant to prepare the mixture. The assistant at length made up a mixture of spirits of nitre and vitriol, but no sooner had he corked the bottle than the contents exploded, and burnt him severely about the eyes, and also Mr. Field's lad. The applicant and a domestic servant named Agnes Stephenson, employed at the Odd-fellows' Arms, who was waiting to be served, were seriously burnt on the face.

Metropolitan Reports.

CHECK TO A SWINDLER.—A man named John Edward Dent was sentenced by Mr. Commissioner Kerr at the Central Criminal Court on May 4 to five years' penal servitude on charges of swindling hotel-keepers and others. He had stayed, among others, at Rayment's and Josland's hotels, where he represented himself as secretary to the Condry's Company. The Condry Fluid Company's offices are next door to the latter hotel, and the proprietor naturally supposed that the prisoner was connected with that concern. At the trial Mr. Alexander Mitchell, of the Condry Fluid Company, and Mr. H. G. Condry, of the firm of H. Bollman Condry & Co., of Battersea, denied any connection with the prisoner; but it appeared that he was secretary to a company lately registered under the title of the Condry's Manufacturing Company, which proposed to work chemists' specialties, and the managing director of which was stated to be a certain Mr. George Condry, of Battersea. The prisoner had also made other false representations to the hotel-keepers, and in one case had given a bill of exchange for 226*l.* on a bank at Battersea, where it was found he had no assets. [We believe that the prospectus of the Condry's Manufacturing Company (Limited) has been widely circulated in the trade. It is therefore important to make known the foregoing facts.]

FIRE.—On April 20, at a late hour, what proved a most extensive and destructive fire broke out at 23 Cross Street, Finsbury, upon the premises of Messrs Johnson & Sons, export chemists, &c. The fire was discovered by the house-keeper. A number of fire-engines were soon on the spot. The building in which the fire broke out is a very large one, extending to nearly Finsbury Square, and is surrounded by several private houses and hotels. It was filled with chemicals, and in view of any explosions occurring the firemen were warned to proceed with great care. The grounds of these fears were in a short time established, for about half-an-hour after the fire had broken out a loud report was

heard, and several explosions followed. For a long time the efforts of the firemen proved unavailing, and after they had been at work for nearly two hours the roof fell in. The cause of the fire is not known, but the damage is covered by insurance.

SOUTH LONDON SCHOOL OF PHARMACY.—The prizes were awarded to the following successful competitors at the examinations ending the Second B Course, and presented on April 30, 1881. The medals were given as follows:—Senior Chemistry, Mr. Thomas; Junior Chemistry, Mr. Shaw; Botany, Mr. Bull; Pharmacy, Mr. Walker; and Materia Medica, Mr. Kay.

FRAUD AND FORGERY.—Charles Maples, 52 Gloucester Street, Queen's Square, a chemist's assistant, was charged on remand, at the Guildhall, on May 3, before Sir Thomas S. Ouden, with obtaining goods by means of forged orders. The prisoner had obtained from Messrs. Maw, Son & Thompson, a case of surgical instruments, value 3*l.* 13*s.* 6*d.*, by presenting an order on a memorandum, from Messrs. Glover & Co., wholesale druggists, 40 Goodge Street, Tottenham Court Road. John Robert Titley said he was a linen-draper, at 7 Market Place, Shepherd's Bush, and was trustee for Thomas Titley, who carried on business at 40 Goodge Street, under the name of "Glover & Co." The order produced was not written by him, nor by his authority, and he never received the goods mentioned in it. An assistant to Mr. Alton, pawnbroker, High Holborn, produced the case of instruments in question, which the prisoner had pledged in the name of Dr. Shoppe, on the day that he received it from the prosecutor, for 25*s.* That case having been completed, three other cases were gone into. In one of them he obtained two cases of instruments, value 6*l.* 13*s.* 6*d.*, in the name of Glover & Co.; in another, ivory-backed brushes to the value of 8*l.*, in the name of Mr. George Boutell, of 52 Marchmont Street, Russell Square, and in the third case goods to the value of 5*l.* 16*s.* 6*d.*, from Messrs. Hovenden & Co., in the name of Glover & Co. The evidence in those cases having been completed, the prisoner was remanded. He was brought up again on May 12, and committed for trial.

PHILTRES, CHARMS, AND POISONS.

(FROM THE FRENCH OF M. EMILE GILBERT.)*

IN the middle ages, before and, indeed, for long after the foundation of the school of Salerno, which occurred in the twelfth century, the practice of medicine was to a large extent in the hands of charlatans and sorcerers. Some of the wealthier barons, it may be, were able to employ an educated physician, at least after the Salerno school had brought such into existence, but the labourers, the serfs, and the poor generally neither desired nor had any chance of obtaining the aid of other than those who assumed to themselves supernatural powers. These latter acquired some knowledge of the properties of herbs, and used it to maintain their influence over their patients. Incessant wars, frequent famines, and the hard conditions of life generally had encouraged the progress of such diseases as epilepsy, hysteria, frenzy, &c., and it was over these semi-mysterious visitations that the sorcerers and diviners of that age pretended to have special power. They also claimed powers of healing venomous wounds, and they found means of alleviating, by means of drugs, some of the miseries of life among the oppressed serfs with whom they associated. By these the sorceresses were called, in a sort of grateful terror, "good dame," or "beautiful dame" (*bella donna*), and from this appellation probably the plant so largely employed derived its name. The name of the order to which it belongs dates from that period, for many plants were classed together as capable of affording temporary, if sometimes deceptive, solace, and they came to be known as the Solanaceæ.

Philtres were employed by these sorcerers, graduated in effects from simple remedies to violent poisons. By *mandragora* they perverted the reason and changed men into beasts; with *datura stramonium* they made a beverage

* For previous sections see THE CHEMIST AND DRUGGIST, February and March, 1881.

which occasioned a perpetual movement and the commission of actions of which the mind retained no memory. But belladonna was the chief agent among these "sorcerers' herbs." Most of their remedies they administered in milk or honey, but they were also applied by friction in the form of pomades, and this mode of practice was known as the *magic unction*. Generally the object was to plunge the patients into a state of stupor, that they might forget for a while their sufferings and rejoice in fantastic dreams and hallucinations.

Bodin, in his "Demonologie," relates seriously how a man of Angers having seen his wife rise in the night, and, after anointing herself, mount a broomstick and depart on an aerial voyage, rubbed himself with the same ointment, when he was at once transported by the same method of conveyance through the air, until he came into a strange place amid a multitude of weird men and women. Terrified, the poor man signed himself; then, with great cries, the whole lugubrious company fled, and he found himself naked at the foot of Mount Vesuvius. From Naples to Angers he had to toil back on foot, and there arriving he denounced his wife as a witch, and she was burnt—doubtless an innocent victim of her husband's absurd nightmare.

André Laguna, physician to Pope Julius III. (1545), records that he obtained from a sorcerer some *magic unction*, which he applied to a poor woman afflicted with frenzy and insomnia, and he relates that she slept for 36 hours, all the while seeing joyful dances and hearing the sound of flutes and tambourines.

In more modern times we read how the priests of Mexico were in the habit of anointing their bodies with a fetid ointment before communicating with their deity. The ointment was composed in part of tobacco and of a drug called by them *ololuchi*. This substance appears to have had the property of benumbing the sensibility.

No wonder that the sorcerers of the middle ages should have acquired such power over the imaginations of people ignorant and fanatic, and surrounded with real enough scourges. They proved their power to disturb the minds, to excite ferocious rage; or, on the other hand, to alleviate their pains, and to produce joyful visions. Their threats of leprosy, of blindness, and of death they could sometimes accomplish, and it is not surprising if the exact limits of their power were not accurately perceived.

At the commencement of modern times (sixteenth and seventeenth centuries) Italy undoubtedly held the first rank among modern nations in respect to arts, sciences, and letters. But beneath the brilliant exterior it is not difficult to trace the vices of refined corruption. Poison and the dagger were important factors in political life in Italy at that date, and the surname of *Venenosa Italia* was not undeserved. The Medicis and the Borgias are not only distinguished in history for their lavish patronage of arts and literature, but also for intrigues and conspiracies, often of hideous criminality. In every district, too, rival houses carried on an almost eternal *vendetta*, so much the more fierce and bloody in that party strife was joined to personal jealousies.

Giambattista Porta was the author of a celebrated work on natural magic, which was really little else than a treatise on toxicology. This man had founded a sort of academy of medicine, which had been suppressed by Pope Paul IV. on the ground that illicit arts were taught and practised therein. In his book he tells us that he had travelled through France, Germany, and Spain, and had received great attention from several princes. On the subject of narcotics he distinguishes three well-marked effects in their action: narcotisation, temporary mental alienation, and death. Philtrons he describes as generally prepared from plants of the Solanaceæ order. In a chapter devoted to cookery, he says that henbane, belladonna, and stramonium, reduced to powder and mixed with food, will produce strange hallucinations. The victims are apparently transformed into beasts: they will act browsing like oxen or swimming and diving like ducks. By means of belladonna he explains how the punishment of Tantalus may be veritably renewed, so that the gourmand, in presence of the most delicious dishes and delicate wines, is unable either to eat or drink. It is a dangerous jugglery that he recommends, however, for, if the poisonous principle of belladonna dissolved in wine can so violently contract the

pharynx as to arrest all power of deglutition, it must have brought the victim to only one stage short of actual death.

In his second book he treats of magic unction, the base of which he describes as *solanum somniferum*. By this means he claims that human beings deprived of their material envelope are endowed with marvellous powers of aerial locomotion, and can find themselves almost instantly transported into the midst of scenes of witches' sabbaths and the like. It was by this unction he supposes that Circe changed the companions of Ulysses into pigs; and he tells us that the Italian witches, having attracted towards them too confiding travellers, made them eat a drugged cheese which caused them to fancy themselves beasts of burden. In this belief they did what work they were set to do, and when they had finished the labours required of them by the witches, they received an antidote which restored to them their primitive forms. According to Porta the narcotic employed by these witches was *dulcamara*.

There is nothing new in these accounts by Porta of herbs used by sorcerers for mental effects. Josephus speaks of the *baaras* employed by the Hebrew exorcists to drive out demons from the bodies of those possessed by them, and Elien describes this *baaras* as used to burn under the nose of persons to free them from the condition of hallucination into which they had been driven by certain deleterious plants. He describes it as a species of seaweed.

Among the other receipts given by Porta are mixtures for stupefying birds, by which they can be easily caught; and pills for narcotising wolves. The latter are composed of aconite, ground glass, quicklime, yellow arsenic, bitter almonds, and honey. But these are not the chief characteristics of his work. It is only just to him to say that his investigations on poisons and their antidotes are marked by careful observation and indicate a bright intelligence.

In one part of his treatise he gives a detailed description of a plant enjoying a great reputation among the Scythians, and which enabled them to support fatigue for several consecutive days without suffering hunger; possessed, in fact, of such properties as are attributed to coca. Acosta ("Hist. Naturelle des Indes," Lib. IV., ch. xxii.) mentions plants with this virtue, and names coca, or *Peruvian herb*; and long before, Avicenna was credited with the invention of certain pills about the size of beans, which were said to have the same effects.

From Italy magicians, philtermongers, astrologers, and "perfumers" passed in considerable numbers to France, and, under the Valois kings, flourished abundantly. They found apt pupils, and it is stated in the journal of l'Estoile, describing the execution of a sorceress named la Miraille, in 1587, that the number of sorcerers, diviners, philtermongers, and such-like criminals had so augmented during the reign of Charles IX. that their chief acknowledged to have had 30,000 accomplices in his art in Paris alone in 1572. The invention of printing helped to spread their fame, and one of the earliest uses of the printing press was to publish prophetic almanacs, which had great vogue.

These "perfumers" and astrologers attained great skill as poisoners. It is probable that the people were not wrong in attributing the death of Charles IX. to Ruggieri, whom Catherine de Medicis had brought to Paris; indeed, it was only by the intervention of Catherine herself that he was saved from execution. Arsenic was the poison commonly employed, and it was mixed with sweetmeats and administered in such graduated doses as often to deceive the most skilful physicians as to the cause of death.

During the sixteenth century Royal edicts were issued which forbade "all sorts of sorcery and magic, divinations, philters, invocations of demons, drinks to win love, enchantments to trouble the air or excite hail or tempests, to destroy the fruits of the earth or the milk of beasts, charms by ligatures, and generally all practice of the magical arts, mathematics, that is judicial astrology, auguries, predictions of the future, and interpretations of dreams." Those who "practice the diabolic arts" were to be "reputed execrable and treated as thieves;" they and those who consulted them were to be punished with death, and those who merely boasted of the power of predicting the future were to be flogged and driven from the town.

So widely was the fear of poisoning spread at this time that the practice of employing tasters even in private houses had largely extended.

Ambrose Paré wrote a special chapter on the antidotes to arsenical poisoning, and recommends, above all, theriaca in Malvoisey wine. The Roman physician Cæsalpin was the sworn enemy of chemical or rational physicians, as they called themselves, fearing, he said, always to find under that title the quality of a poisoner. He recommended that meats should be served on dishes of *electron*, which would tarnish if any poison were concealed in it.

Jerome Mercurialis, who had been a professor at Padua, wrote an important work on poisons and their antidotes, and the science of toxicology was also advanced by Ardouyn of Pisa, Fioraventi of Bologna, and others. Then came the era of experimental science inaugurated by Bacon. All countries contributed to human knowledge. The science of toxicology is especially indebted at this epoch to Van Helmont, Robert Boyle, and Glauber.

Towards the end of the seventeenth century chemistry was being better studied, but was still without fixed laws. Just at this time criminal poisoning reached throughout Europe, and particularly in France, the character of an epidemic. In Rome, 200 years before the Christian era, according to Livy, 150 young married women formed a society, under the presidency of Hieronima Sparra, to study and practise the art of poisoning. They aided many impatient heirs and weary wives, but were ultimately all arrested and banished, except Sparra, who was hanged. An almost similar scourge broke out in France under the reign of Louis XIV. Poisonings succeeded each other with such rapidity that justice was unable to keep up with them, and a special chamber was formed to deal with that crime. The cases of Brinvilliers, la Voisin, la Vigoureux, Exili, Gaudin de Ste.-Croix, and others became famous.

Marie Marguerite Dreux d'Aubry, Marquise de Brinvilliers, she was the daughter of a civil lieutenant, who in 1651 had married the Marquis de Brinvilliers. Dissolute from her childhood, but beautiful and graceful, she formed the acquaintance of Gaudin de Ste.-Croix, a cavalry officer, and the result of the scandal was that he was removed to the Bastille. There he met with the Italian Exili, who was credited with having poisoned 150 persons at Rome during the pontificate of Innocent X., and from him he learnt the secrets of poisonous charms. On leaving prison he taught the mysteries he had learned to the Marchioness. She, for mere practice and curiosity's sake, and without any motive of hatred or revenge, poisoned her husband, servants, relatives, and numbers of poor people to whom she pretended to be charitable. By accident Gaudin suffocated himself, and a case was found on him containing packets of poisons addressed to the Marchioness, and letters attesting her crimes. She fled to Liège, but was taken by the French police, and on July 16, 1676, was burnt. Corrosive sublimate, opium, and arsenic were the poisons which were found in the case of Ste.-Croix addressed to her.

Soon after the case of la Vigoureux and la Voisin attracted attention. These women professed to sell essences, powders, and philters, and they had a large clientèle. Their house became a centre of intrigues and seductions, and suspicion, and at last proof indicated that they were resorted to by the victims of deceived love, by those eager for heritages, and by others weary of too-long wedlock. The trial of la Voisin for numberless poisoning crimes lasted 14 months, and resulted in her being burnt on July 22, 1680.

The Sicilian Tofana, who was believed to have taught Exili and most of the chief poisoners of the age their mysteries, was not brought to justice till 1709. He was believed to have counted more than 600 victims. The Aqua Tofana, or *Aquetta di Napoli*, as it was called, was a solution of white arsenic. Five or six drops were given at a time, and produced a slow but certain death. At his trial at Rome he would reveal his secret only to the Pope, and to the Emperor Charles VI., who was then in the city. The Emperor told it to his physician Garelli, by whom it was revealed to Hoffman, and published in the "Rational Medicine" of the latter.

The severe punishment of the poisoners at last stamped out the epidemic of crime, and the minds of people were quieted. The eighteenth century brought a great access of activity in scientific experiment, and before its close chemistry had come forth free from the superstitions and absurdities which had for so many centuries hindered its progress.

FORMULÆ OF SECRET MEDICINES.

The Formulæ given below are translated (by special permission of the author) from a German collection compiled by Mr. Edward Hahn, Apotheker. The names following most of the Formulæ are those of the authorities quoted for the analysis. The weights are almost invariably given in metric denominations. A gramme is equivalent to 15½ grains. The prices quoted are the nearest English equivalents to the original retail price.

[g. = grammes; p. = parts.]

SELENITE PERFECTIONNÉ (Paris).—An alkaline solution of lead acetate and nitrate.

SERAPION-ZELTCHEN—SERAPION TABLETS (Dr. Schlemm, Berlin).—A house cure for coughs, sore throats, and the like. Thirty tablets, weighing 90 g. each, in the shape of an hexagonal cylinder, covered with tinfoil. They consist of common dextrine, gum, and sugar, with a trace of infusion of pectoral tea and star anise. 1s.—*Hager*.

SERVESTA—A HAIR WASH (Nitsit).—Copper sulphate, .09 g.; zinc sulphate, .12 g.; water, 8 g.; ammonia carbonate, .9 g.; glycerine (common), 40 g.; spirit (60 per cent.), 80 g.; bergamot oil, a few drops. 125 g., 1s.—*Wittstein*.

SICCIN (C. Spitzmüller, Vienna).—To be placed in the nose to prevent cold and inhalation of dust or injurious substances. Rolls of cotton wool coloured red with aniline. 3 g., 1s.—*Pribram*.

SNOW-WHITE ORIENTAL CREAM, for whitening and beautifying the complexion (Phalon & Sons, New York).—A colourless fluid containing 50 per cent. of lead carbonate. —*Chandler*.

SOLUTION COIRÉE is a solution of freshly-precipitated calcium phosphate, washed and dissolved without exposure to the air in dilute hydrochloric acid.—*Hager*.

SOLVENT FOR FUR IN KETTLES (A. Stahl, Köln).—Calcined soda tinged with logwood. 50 kilos., 75s.

SOMMERSPROSSEN—FRECKLES—PRINCE AURENG-ZED' REMEDY, OR INDIAN EXTRACT.—An alcoholic tincture of pimpernel.

SOMMERSPROSSEN, HOFELD'S CURE.—I. White precipitate ointment, 15 g., with a little wax. II. A wash made of camphor, .25 g.; benzoin tincture, 8 g.; soap liniment, 15 g.; and rosewater, 125 g.—*Wittstein*.

—E. KIMBALL'S CURE.—Potassium acetate, 1; water, 50; dissolve, and add a little spirit and rose otto. 50 g., 1s.—*Hager*.

—FROM THE APOTHEKE OF THE GOLDEN CROWN, MÄHRISCH-OSTRAU.—A fluid and an ointment. The fluid is a solution of mercuric acetate, .5 g., in water 250 g. The ointment is a mixture of white precipitate, 2.25 g.; and pomade, 42.75 g. 2s.—*J.*

SALBE GEGEN SOMMERSPROSSEN — OINTMENT FOR FRECKLES (M. Riedl, Vienna).—About 30 g. brownish-yellow, soft ointment in a white porcelain pot with a tin cover. Paraffin, 18 g.; almond oil, 5 g.; melt together, and add milk of sulphur, .8 g.; glycerine, 4 g.; tannin, 1 g.; colocynth tincture, 2 g.; rosmay oil, 10 drops; thyme oil, 5 drops. To be well rubbed into the face on going to bed, and to be washed off with soap in the morning. 2s.—*Hager*.

SOMMERSPROSSEN UND LEBERFLECKEN—FRECKLES AND SPOTS (Fr. Solbrig, München).—A tincture of white hellebore, 30 g.; arnica root, 30 g.; pellitory root, 30 g.; styrax calamita, 8 g.; alcohol, 500 g.; perfumed with bergamot and lemon oils. 30 g., 6½d.—*Bedall*.

SALBE GEGEN SOMMERSPROSSEN (from Vienna) is a 10 per cent. nitrate of mercury ointment.—*Wittstein*.

SOUSNITRATE DE BISMUTH, CRÈME DE BISMUTH DE QUESNEVILLE (Paris), is the undried precipitate of bismuth subnitrate put up in little pots and sold for dysentery, colic, &c.

STEEDMAN'S SOOTHING POWDER consists of starch meal (rice starch). It is most perfectly innocent; indeed, it contains not even a homœopathic dose of a mother tincture.—*Hahn*. [English chemists will not endorse this statement.]

MRS. WINSLOW'S SOOTHING SYRUP (Curtis & Perkins, New York).—White syrup, 8 parts, mixed with 1 part of a tincture made from 10 parts bruised fennel seed, 1 part fennel oil, and 60 parts spirit (90 per cent.). 60 g., 1s. 6d.—*Hager*.

VAN BUSKIRK'S SOZODONT (Hall & Rückel, New York).—For preserving and cleansing the teeth. A quadrangular case, containing a bottle holding about 60 g. of a red fluid and a packet of about 6 g. of powder. The fluid consists of a solution of oil soap (*sapo durus*, P. B.), 5 g.; in glycerine, 6 g.; spirit, 30 g.; water, 20 g.; flavoured with peppermint, clove, cinnamon, and star anise oils highly tinted with cochineal. The powder is a mixture of chalk, magnesia, and Florentine orris root. 3s.—*Schädler*.

LINIMENT FOR SPRAINS AND LAMENESS IN HORSES (from the Pharmacy at Lössnitz in the Erzgebirge).—A mixture of kienöl, 40 p.; tar, 10 p.; and linseed oil containing cantharides, 50 p. 3s. per lb.—*Hahn*.

SPIERPULVER.—For chronic eruptions, tetters, scrofula. Equal parts brickdust and sulphur.—*A. Müller*.

SPIESS'S POWDER, for skin diseases, consists of iron oxide, sulphur, and bone-ash.—*H. J. Versmann*.

SPIRIT ARTUS, against all kinds of pain in the limbs and teeth (J. J. Müller, Berlin), contains, in 100 parts, acid resin (perhaps euphorbium), 4; camphor, 8; rosmarin and lavender oil, 4; corrosive sublimate, 88; absolute alcohol, 70. 35 g., 1s.—*Hager*.

SPIRITUS BOHEMI, CARDINI'S SPIRIT, for all kinds of toothache. An alcoholic solution of camphor and olive oil. 15 g., 3s. *Ludwig*.

SPORTING LIQUID, No. II. (Dr. G. Kreiger).—For swollen limbs or joints in horses. Dissolve about 60 g. sal-ammoniac in 360 g. water; mix with this a solution of 30 g. ordinary caustic soda in 50 g. water; add 15 g. slaked lime; allow the precipitate to deposit, and pour off the clear liquid. 300 g., 2s. 6d.—*Hager*.

MISCELLANEOUS FORMULÆ.

ASBESTOS powder, made into a thick paste with liquid silicate of soda, is used with great advantage for making joints, fitting taps and connecting pipes, filling cracks, &c. It hardens very quickly, stands any heat, and is steam-tight.

ALBUMEN, from which the blood corpuscles have been entirely removed, has been bleached by subjecting it to the action of the electric light, the rays of which are properly collected by means of lenses, &c. It is stated that the albumen may be bleached within twenty-four hours. The albumen may be in a dry or fluid state.

M. BLONDEAU gives the following recipe for purifying and bleaching sponges:—The sponges are first washed in tepid water, and then in a solution of hydrochloric acid—5 cubic centimetres=0.3 cubic inch, to 1 litre=1½ pint—which frees the pores from carbonate of lime. To bleach them, they are immersed for twenty-four hours in a solution composed of 5 parts of hydrochloric acid to 100 of water, with the addition of 6 pints of hyposulphite of soda. In this way sponges may be bleached more effectually and rapidly than with sulphurous acid.

TOUGHENING GLASS.—A Leipzig journal gives a simple method of toughening glass, which, it asserts, will prevent lamp chimneys, tumblers, and like articles from cracking. The articles are put into a pot filled with cold water, to which some common table salt has been added. The water is well boiled over a fire, and then allowed to cool slowly. When the articles are taken out and washed, they will, so it is said—we have not tried it—be found to resist sudden changes of temperature.

TRADE MARKS.

THE following information was given in a paper read before the Society of Arts on April 27, by Mr. Edmund Johnson, F.S.S., F.Z.S., Mr. Theodore Aston, Q.C., in the chair:—

Mr. Johnson first gave a summary view of the Trade Marks Act, and statistical particulars as to registrations. During the five years that the Act has been in operation, from January 1, 1876, to December 31, 1880, there have been 21,636 marks advertised, and 18,764 registered.

Prior to the Act the common law recognised as a trade mark, a signature, a figure, a fancy name, or a letter, or a combination of letters or words, or a device. Under the Acts, letters, words, figures, or combinations of letters, words, or figures are only recognised as capable of registration when in combination with a device, mark, heading, label, or ticket. The following illustrative instances were given:—

Soon after the Act came into operation, an application was made to register the fancy word, "Aeilyton," which had not been used as a trade mark before the passing of the Act. The Master of the Rolls refused to order it to be registered, holding that only those words which had been used before the passing of the Act as trade marks could be registered; the reason assigned being that, under the definition of a trade mark given in the Act, a new word could not rightly be claimed. The practical result of this decision was to exclude from registration all fancy words invented and first used after August 13, 1875. So, while "Anatolia" as to liquorice; "Eureka" as to shirts; "Glentfield" as to starch, and a number of other such words, are all trade marks, it is not now competent for any person to create a new trade mark of any such fancy word. As fancy names are among the best remembered of trade marks, the result is to give to articles so named, and established in use before 1875, an important advantage, and to check the continuation of a system which, in the past, has been proved to possess great commercial value.

Another important restriction on the definition of trade marks was arrived at by the decision, on the application of Messrs. Mitchell, the well-known pen manufacturers, who had used the letters of the alphabet from A to W, as descriptive of the various qualities of the pens made by them, and which were known to the trade and the public as "Mitchell's A," "Mitchell's J," &c. Section X., after defining what, for the purposes of the Act, is regarded as a trade-mark, gives the power to add thereto (that is, to such trade-mark), "any letters, words, or figures, or combination of letters, words, or figures." The plural is used throughout. Messrs. Mitchell applied to register all these letter marks separately; the registrar refused, and the Court upheld the refusal, on the ground that, as the definition of a trade-mark in the Act was in the plural, and spoke of letters or combination of letters, a single letter did not come within the definition, and so was not such a trade-mark as could be registered under the Act. This decision has had the effect of excluding from registration all single letters and numbers, unless in combination with something else. How far this is good law may be doubtful, as another learned judge held—and on this point his decision has not been reversed by the Court of Appeal—that under the Act all marks that the Court would have protected by an injunction before the passing of the Act of 1875 can be registered under the Act, the definition of a trade-mark given in the Act applying to new marks only. This opinion is based on the idea that the object of the Act was to protect property, that in all marks used before 1875 the owner had a property, and that that property should be protected by the Act, which could not interfere with vested rights; that, therefore, the definition of a trade mark given by the Act only applied to new marks, the Legislature having the right to say before giving its protection to things in which no right of property already existed, that its own terms should be observed as a condition of giving that protection. Although the case in which Vice-Chancellor Malins lays down these doctrines was cited in the argument in Mitchell's case, the Court did not then accept the doctrine, but decided that for the purposes of registration, the definition in the Act applied to all marks, new or old.

In connection with numbers, I am not aware of any test cases having arisen, but that it should be possible for a paper manufacturer, whose mill number happens to be 10 or 11, to register such number as his trade-mark, and that registration to the owner of mill No. 8 or No. 9 should be refused, seems anomalous. Paper manufacturers frequently consider their mill numbers as their trade-marks, and many are so registered in Class 39, some separately as mere numbers, others as part of the registered labels, or ream wrappers used in the paper trade.

In Class 3 has been registered a mark consisting of the words "Trade Mark" with the letter and figure "A 1" in combination. The words "Trade Mark" cannot be claimed as special or distinctive, being only permissively placed upon the register in connection with old marks. The combination "A 1" only comprises a single letter and a single figure—a hybrid plural. This restriction as to the plural would certainly appear to need some consideration when the matter again comes before the Legislature. In the early stages of the work of the office, many word-marks were entered upon the register, applications for which, if tendered at a later date, would not have been entertained. For instance, in Class 3 (mostly described as medicines) there are upon the register such word trade-marks as "Infant's Relief," "Family Salve," "Mother's Hope," "Bosom Friend," and many others of a like character. Vice-Chancellor Hall, in December, 1879, granted an injunction in respect of "Family Salve" as the registered trade-mark of the owner, infringed by one who had been in his employ as an assistant. In June last, Vice-Chancellor Bacon ordered the registration of the words "Kitchen Crystal Soap" to be completed, considering them as "special and distinctive," it being proved in evidence that these words had been used as a trade-mark for 12 years.

This class of marks has been still further limited by the decisions that have been given on the words themselves. To constitute a trade-mark, it has been held that the mark must not bear any relation to the subject matter in respect of which it is applied, and this whatever period of user may have belonged to it. Thus, "Nourishing Stout" was held not to be a trade-mark, because merely descriptive of the article. But a word such as "Angostura," when applied to bitters, being not descriptive but distinctive, was held to be a trade-mark, the test in each case being, "Is the word distinctive or merely descriptive?" If distinctive, then, however absurd or far-fetched (and the more so the better), it is a trade-mark, and entitled to protection; if descriptive, it is under no circumstances to be registered. This point was dealt with in the case of Lamplough's Pyretic Saline. Mr. Lamplough claimed the use of the word "Pyretic," but the Master of the Rolls, in the first instance, and the Court of Appeal afterwards, held that there could be no property in an adjective simply descriptive of the quality of the goods sold. In another case a contest arose between the words "Valvoleum" and "Valvoline:" both fancy words, both invented to describe the particular article, but each as a trade-mark used in combination with a different device. Here it was held that no property existed in either word, as both were only another form of stating that the substance was valve oil.

The effect of the decisions having, therefore, been to limit materially the number of fancy words that could be registered, a further point arose on the use of names as trade-marks in cases where the name had been used by various manufacturers, as applied to certain classes of goods, such as the word "Berlin" in connection with wools, "Axminster" for carpets. This point was settled in the case of the word "Alloa," as applied to yarns. An application was made to register the word "Alloa" as a trade-mark, by a manufacturer who carried on business at Alloa, and manufactured a species of yarn known in the trade by the name "Alloa." The registrar refused to register this word, and his refusal was upheld on the ground that, although the word "Alloa" might have been a trade-mark if used to designate the goods of one manufacturer, yet, as it had come to designate not a particular maker's goods, but a special kind of goods made by different makers, it had ceased to be distinctive of the maker, had become descriptive of the material, and so could not be a trade mark.

So great a hardship has the public found the restrictive definition of a trade-mark, that every conceivable device is

resorted to with the view of obtaining the much-coveted right to use, and if possible to protect, fancy names as trade-marks.

A vast number of word registrations have been effected in many classes, the system most frequently adopted being to combine the desired word with the signature of the applicant. In use, such words sometimes appear conjointly with the signature, then, of course, corresponding with the full description on the register; but, in many instances, the fancy word is all that it is desired to use and claim, and the signature is omitted.

The question arises, "To what extent are fancy words protected when so used alone?" Upon this point the decisions of the Court will be most anxiously awaited when the question is tried. The word is on the register; fees in respect of it have been paid; the Act has allowed it to be added to the essential portion of the trade-mark, viz., the *facsimile* signature, but has not distinctly specified whether in being so added it acquires the same protection as the signature or as any trade-mark distinctive and complete in itself; whether, in fact, it is at all such a portion of the trade-mark as can be protected. Against this, it must be noted that, under the Act, the signature is made the essential particular, the addition of a word or combination of words being merely permissive. The question comes to be whether the registration protects the combination, or only the essential feature. This has to be answered in all cases.

The importance of the interests involved cannot be overrated, and of this the columns of the newspapers afford ample evidence. For instance, take one industry alone, that of the new temperance drinks. In connection with these it is of paramount importance to obtain a distinctive name, and to identify the same with the particular article to which such name has been first applied. Although some of these drinks are patented, it is only under a distinctive name that they can be identified by the public.

Does registration of the name of a particular drink, in combination either with a device or the signature of a firm, give the owner of that drink a right to restrain another who may sell a beverage under that name manufactured by himself, the beverage being distinct from that originally patented? Take, for instance, the words "Hedozone" and "Zoedone," which are not old trade-marks. It is, I apprehend, sufficiently significant of the necessity which exists for further legislation on the subject of trade-marks, that a doubt on a question of this nature, in which capital to the extent of, perhaps, millions of pounds sterling is involved, should exist. If the Legislature did not intend to accord protection to the letters, words, and combinations of letters which may be registered as ancillary to the essential portions of the trade-marks, is not the Legislature misleading the public, and, in fact, permitting registration fees to be paid in respect of a protection which is not given?*

The statistics on this subject show the value which the public attach to the privilege of being able to acquire rights in words. Selecting seven classes in which word-marks are most prevalent, I find that out of a total of 5,573 marks applied for in such classes, as large a proportion as 1,336 consist of word-marks. If in the particular industries comprised in these classes word-marks have in the past proved the most suitable, why should the Registration Act incidentally hamper such trades in the future by restricting them in the use of such marks?

Words are registered, in combination either with signatures or devices, in many classes. Of such registrations there are but very few indeed in which any value is attached by the owners to the device, or the *facsimile* signature, registered in combination with the word. The registration of the signature or the device becomes, in almost every instance, a mere subterfuge, and various manoeuvres are resorted to for obtaining this much-desired, but very questionable, privilege of placing fancy words on the register.

The penalties upon imitating signatures are so serious,

* The following questions have been suggested by a member of the bar who has given much attention to this subject:—"Is the drink patented or not?" "If not, why may not everyone make it; and if one makes it, by what name is he to call it unless by that which is the true and known one?" "If he invents a new name he describes the article as different from the old one, and misleads the public?"

that in but rare instances are imitators bold enough to indulge in the luxury of forgery.

A friend of no mean authority on the subject of trade-marks remarked the other day that, for some purposes of commerce, he considered a trade-mark consisting of a fancy name of far greater value than any device. Without altogether agreeing with my friend's opinion, I am certain that a large proportion of those interested in trade-marks take his view, although many urge the best plan is to register a device, *e.g.*, an animal, as a tiger, and to get the article known to the public as "tiger" ale, &c.

Registration is a boon for which the manufacturers of this country had continuously asked for upwards of twenty years. Lord Cairns, as the author of the Registration Act, undoubtedly intended that it should prove of the utmost use, not that whilst giving with one hand what was sought, with the other new restrictions on commerce should be created.

I have certainly never heard of any reasons which appeared to me to be valid or of weight, why a novel and fancy word should not be allowed to constitute a trade-mark. No confusion can prevail. Anyone desirous of using a name in connection with a particular class of goods, can always ascertain whether such name is already on the register.

SIMILARITY OF MARKS.—Some learned judges seem to consider that, in the case of a contest between two persons as to similarity of trade-marks, the Court is bound to regard questions of colour and size, though the registrar disregards these points, as colour is not protected by the Act, and there are no restrictions as to the size of marks.

The registration of a triangle containing the representation of a church was successfully opposed, it being held that whilst distinct when presented in black and white, the triangle containing the church could in subsequent use be coloured red, and the church thus be so much obscured as to render the mark similar to that of Messrs. Bass. The expression "calculated to deceive," should, it was laid down, always be interpreted in its broadest signification, so as to discourage the evil of imitation and to facilitate remedy.

Another class of cases arose, where two or more persons, in ignorance of the use by each other, had both used the same trade-mark for goods in the same class. Could each be registered, or did the use by two persons deprive the mark of its distinctive character, so as to make it capable of registration? A compromise resulted, the Commissioners of Patents deciding that in respect of the same mark in the same class, three persons might be registered. If more than three were proved to have used it, then no one could be registered, as the mark had lost its character of distinctiveness, and ceased to be a trade-mark. The applications of this ruling have already been numerous, and if it be possible to take advantage of it to the full extent in the fifty classes, there is the chance of some favourite old mark appearing on the register 150 times.

ANTIQUITY OF MARKS.—Of the marks early advertised, the largest number of those for which very old user is claimed, are from Sheffield, and those are registered, in most instances, in Classes 5, 6, 12, and 13. One of these marks dates back nearly 200 years; a large proportion upwards of 100 years. Of the marks applied for soon after the opening of the register, one, that of Köpke's port wines, dates as far back as 1638. Six others trace their origin to a date between 150 and 200 years ago; whilst more than 30 marks show a user of upwards of 100 years. Amongst the oldest marks are several registered in the name of the King of Saxony (Class 16), dating from the year 1733. The words "The Coffee Mill," registered in several classes by Messrs. Berry Brothers, of London, have a user of 155 years before December, 1875. The name "Wedgwood" has been a trade-mark since 1776. Some of Messrs. Olley's port brands are older still. Croft's date from 1776. Messrs. N. Johnston & Sons and Messrs. Hunt, Roope & Co. claim upwards of 100 years user for their wine marks; Messrs. Taylor, Fladgate & Yeatman upwards of 150 years for theirs. Gautier's brandy-mark has a user of 120 years; Ruinat's champagne, one of 150 years. The words "Singleton's Golden Ointment" stand registered in Class 3 with a user of over 102 years before 1876. The groceries of Messrs. Farquharson, of Aberdeen, carry a label bearing the date 1694, although under its registration it is only modestly claimed as having upwards of 100 years' user. One

of the Chocolat "Lombart" labels dates its user at Paris since 1760. The Kendal tweeds of Messrs. Wilson have a trade-mark dating from 1776. Messrs. Weston & Westall's salt mark, the "Horse," is upwards of 100 years old. Many of the iron-marks have a user of upwards of 100 years.

It may be observed that marks which claim the greatest antiquity are not always those the most widely known. Messrs. Bass' beer label, with the triangle, which was tendered for registration on the opening day, and will go down to posterity as No. 1 on the English register, had a user of only 20 years claimed for it on January 1, 1876. Farina's eau de cologne marks, the first on the German Register at Cologne, and presented quite early for registration in this country, date less than 50 years back, though the house has been established since the beginning of the last century.

EXHIBITION MEDALS.—Medals are registered as parts of old trade-marks, if used as such before August 13, 1875. A difference is thus created which is scarcely fair to manufacturers who previously to that date had gained such distinctions, but had not made the same use of them. Medals, it has been decided, are not in themselves trade-marks. Their wrongful use, however, is made penal under the Exhibition Medals Act, 1863, so far as concerns the Exhibitions of 1851 and 1862, but so far only. It is contemplated to urge upon the Government next session to introduce a Medals Amendment Bill to cover all exhibitions—national and international—conducted under Royal or other Commissions, or with the recognition of the Board of Trade.

The day, I trust, may not be far distant when a Supplemental Trade-Mark Act may be passed, with the view of varying the definition of a trade-mark in such a manner as to embrace an original fancy name among the essential particulars, and to admit of a letter or figure being registered as an old mark, and added to any one or more of the essential particulars of any new mark. Power, under such an Act, might be reserved for the registrar to cancel, after a specified period, all applications not completed owing to the non-payment of registration fees.

The mercantile community would gladly avail themselves of the permission to record trade labels, under a special system of registration, similar to that adopted in America. In any new Act I should like to see such a system provided for.

The rules might, I think, be advantageously varied, by giving the registrar power to amend their register, in respect of trivial alterations in registered marks, without application to the court; and where collision is impossible, to permit two mutually consenting persons to be interested in the same mark in respect of goods of a totally different kind, although comprised in the same class.

My own feeling is that these Acts have inaugurated a new era in the history of British commerce. For the outlay of an almost nominal sum, the smallest as well as the largest manufacturer in the kingdom, by the registration of a trade-mark, can secure to himself, his successor and assigns, the absolute and exclusive right to use that mark in connection with his goods, and to identify any particular class of them sold with that mark as being of an unvarying and standard degree of excellence. The public, on the other hand, learn to look upon the manufacturer's trade-mark as a guarantee of such standard degree from which they know he cannot depart, except under penalty of losing both credit and custom. Thus, the trade-mark affords security to the purchaser, and makes honesty the best policy on the part of the manufacturer.

PHARMACEUTICAL FOOTBALL CLUB.—The annual meeting of this club took place in the laboratory at Bloomsbury Square on Friday, April 29, when the following officers were unanimously elected for the season 1881-82:—President, Professor Attfield, F.R.S., &c.; vice-presidents, M. Carteighe, Esq., E. Bremridge, Esq.; captain, Mr. Avery Lucas; vice-captain, Mr. C. Thompson; treasurer, Mr. Jones; secretary, Mr. J. O. Braithwaite; committee, Messrs. Betty, Wrenn, Bush, Wright, Edwards, and Job. The club supper was held at the Holborn Restaurant on May 13. The club has largely increased the number of its members, and it is hoped that a good fifteen will be sent into the field next season.

QUEBRACHOS, TRUE AND FALSE.]

(A few Notes, original and collected.)

[By C. E. STUART.*]

QUEBRACHO is a term applied generally throughout South America to several kinds of hard-wooded trees; it means literally "axe-breaker," the application of which is obvious. In the province of Santiago, Argentine Republic, in the heart of the continent, four trees at least are known as Quebrachos, viz.:—(1) *Aspidosperma quebracho blanco*, N.O. Apocynaceæ, *White Quebracho*; (2) *Loropterigium Lorenzii*, N.O. Terebinthineæ, *Red Quebracho*; (3) *Jodina rhombifolia*, N.O. Ilicinæ, *Quebracho Flojo*; (4) *Macharium fertile*, N.O. Leguminosæ, *Tipa*. The first of these is the tree whose bark (and sometimes wood) is used medicinally. It is a handsome tree, attaining considerable size, in form resembling the ash, but with drooping branch-tips, and was first described by Burmeister and named by Schlechtendal. It belongs to the natural order *Apocynaceæ*, whose members are in general notable for the presence in one of one or more of these three classes of substances, astringent materials, aromatic resins, and a milky juice which is harmless in some plants (caoutchouc), poisonous in others. I may mention that Miers, in his work on the *Apocynaceæ* of South America, gives an interesting description of the method of ovule fertilisation common to the order, a method which excludes the possibility of insect aid to that end.

The name *Aspidosperma* (shield seed) is given to the genus on account of the curious flattened seed—large embryo surrounded by scanty, soft albumen, the outer coat of the whole showing cells beautifully pitted and reticulated radiations from the centre towards the rim of the shield—a striking object for the microscope.

The greater portion of the bark of commerce is taken from trees of from 70 to 80 years old. It is from $\frac{3}{4}$ to over 1 inch in thickness. Young pieces, without corky development, are occasionally met with.

At least half the bark consists of corky structures; this part, in making a clean cut across the bark, is seen to be sharply defined by difference of colour from the periderm or inner bark. This outer portion is much furrowed and broken, and is externally of a dirty brown-grey colour, with occasional lichen marks. In section, to the eye or lens, it consists of an ochre-yellow ground mass, traversed in a direction roughly parallel to the inner bark by lines of a duller colour (cork layers). Between these lines are scattered numerous whitish spots (stone cells). The inner portion of the bark is generally of a darker colour, but this may vary from a cinnamon-brown to a deeper tint, and, according to Hansen, may even approach a yellowish-white. The colour is believed to deepen by exposure to the air; to this cause also is most probably to be ascribed the rosy blush seen on the inner side of many fine specimens of the bark. No mention is made of this warm colour by Hansen.

Microscopical Character.—The outer bark consists of bands of cork cells, between which are bands of the inner bark cut off by the repeated development of cork deep in the tissues. The cork cells are of the usual character—empty. The remaining structures are parenchyma cells, containing a reddish-colouring matter, and with them are masses of from 10 to 40 stone cells, parenchyma cells, slightly altered in size, and with enormously thickened and hardened walls; these have only a small cavity in their centres, with well-marked thickening layers and pore canals.

Among these stone cells are fibres of a peculiar nature, which I shall describe presently. The inner bark is composed of brown-walled parenchyma and yellow stone cells. The parenchyma cells are unequally thickened (tending to pass into stone cells), and contain starch and a brown granular substance. Although the arrangement of the inner bark is irregular and distorted, yet the medullary rays may be recognised in places; they are often penetrated by the thread like mycelium of a fungus. The stone cells show the same structure as those of the outer bark; the only difference is that they contain a yellow granular substance, insoluble in water, alcohol and ether, and hardly dissolved by potash. It contains no tannin. Among the

groups of stone cells, or occasionally loose, are scattered groups of other remarkable cells. In their cross-section there appears a large circular cell, so thickened that only a pin-point shows for central cavity. This is surrounded by a wreath of 10 or 12 small angular cells, each containing a crystal of oxalate of lime. On teasing out from the bark one of these bodies it is seen to be long, spindle-shaped, and the wreath in section has become a beautiful case enclosing the whole fibre. The fibres themselves are the representatives of the woody portion of the bast tissue. Crystals are of frequent occurrence, in conjunction with bast fibres, in barks, but their regular arrangement round isolated fibres is comparatively rare, although met with in more than one order of plants.

Quebracho-wood is compact and hard, white when young, but becoming chocolate brown by age. Among the round, thick wood fibres making up the mass are scattered a few cylindrical parenchyma cells. Many of these put out on one side finger-like projections, which meet similar projections on other cells. At the finger-tip is a group of a few pits, which are not absent also from the rest of the cell. The wood contains no tannin.

Chemistry.—The bark contains an alkaloid—*Aspidospermine*—very slightly soluble in water (1 in 6,000), soluble in strong alcohol (1 in 50), and in dilute acids. It exists to the extent of 0.17 per cent., and has not yet been crystallised. Dr. Walpberg (*Ph. Journ.*, October 2, 1880) thought this to be identical with *Paytine*, from a spurious cinchona, but Hesse (*Ph. Journ.*, January 22, 1881) denies this. The latter also describes a second alkaloid, which he calls *Quebrachine*, and which occurs in larger proportion (0.28 per cent.) than *Aspidospermine*; it is less soluble in alcohol, and crystallises in white prisms. Hesse also promises particulars of three more alkaloids from the bark.

A cold infusion of the bark (1 to 4) is light brown in colour, slightly fluorescent. Iron salts give in this but the faintest colour, and but the smallest brown precipitate after standing. (Hansen says a faint green-grey precipitate.) Aqueous solution of tannin gives a faint translucent gelatinous precipitate. Both these reactions distinguish it from the substitutes which I have examined.

Lead acetate precipitates slight colouring matter merely.

Pharmacy and Medicinal Use.—Its weak infusions or decoction, proof-spirit tincture or weak spirituous extract would seem to be the best preparations. A tincture prepared as Tra. Cinchon. Flav. B.P. has a nice appearance (fluorescent), and will contain all the medicinal properties. The bark was introduced into Germany in 1878 as a febrifuge, but was not found useful for that purpose, and now it has some favour as a palliative in *Dyspnœa*. When *Aspidospermine* was discovered, Dr. Penzoldt tried it in various cases, but could not get precisely the effect of the bark, therefore the active principle may be *Quebrachine*, or one of the three other undescribed alkaloids, or a combination of these five.

I have examined four substitutes for the white quebracho bark. One was given to me as the red bark (*L. Lorenzii*), but as I could not make it agree with published accounts of it, I will give here a summary of Hansen's description. It is about the thickness of the *aspidosperma* bark, showing an equal development of corky structure, but it is somewhat redder and coarser. In the inner bark the medullary rays are distinctly seen. Microscopically it is remarkable for the regular arrangement of the stone cells. The bast fibres tend to lie in groups of almost rectangular outline, surrounded by the crystal sheaths, and not singly. The bark contains about 15 to 23 per cent. of tannin.

It is to be understood that the terms "white" and "red" apply to the woods of the two trees, and not to the barks.

I have not obtained specimens of the *Flojo* and *Tipa* barks.

A bark from a Russian source, given to me by Mr. Holmes, curator at Bloomsbury Square, is so different from the medicinal bark that I have not examined it microscopically; no crystal-sheathed fibres occur, however. It is in large heavy curved pieces, extremely tough and compact. Both outer and inner bark show alternate dark and light wavy bands. It contains large quantities of tannin.

A false *Quebracho*, presented to the Pharmaceutical Society by Mr. Cranwell, consists of a bright light brown cortical

* Read before the Chemists' Assistants' Association, March 9, 1881.

portion and a white fibrous inner portion. The microscope shows the inner bark to be traversed by thin medullary rays, between which are bundles of small bast-fibres, unaccompanied by crystal sheaths, while many large crystal-sheathed fibres lie isolated in the tissues. It is very rich in starch. This bark has a most intense bitter taste, hardly to be distinguished from quassia, but it contains some tannin.

The last bark I examined was a small piece from Messrs. T. Christy & Co. The thick cortical portion contained an orange colouring matter, brightened by strong nitric acid; the hard inner portion had an almost resinous fracture, contained few and isolated fibres, and was nearly black in colour, the inner side being perfectly smooth. All through the bark were crowded large white masses of stone cells, often allowing themselves to be picked out with the point of a knife. The outer bark was made up as described in the true Quebracho; the inner bark showed the stone cell and crystal-sheathed fibres arranged irregularly towards the junction of the two portions, but in the inmost third the crystal-sheathed fibres alone occurred, arranged in the parenchyma in a certain order between the obscure medullary rays. Very little tannin was present.

On the table are placed several other false Quebrachos (including *Copalchi*), but as these are in small quilled pieces, no possibility exists of mistaking them for the white Quebracho at present in the market.

Although no wholesale house will knowingly offer you a spurious article, yet the possession of a simple means of assuring against accidental substitution is always desirable. So far as my experiments go, I find that the white quebracho in infusion gives, as already stated, almost negative results with ferric chloride and with tannin; but infusions of the other barks examined are darkened by the iron salt, or give a copious white precipitate with tannin; in one or two instances both reactions occur together. These characteristics, and the general appearance of the bark, seem to me to render its recognition certain.

In conclusion, I have to thank the Pharmaceutical Society, Mr. Holmes, and Messrs. Christy & Co. for loan of the excellent specimens I have placed on the table.

MELBOURNE EXHIBITION—LIST OF AWARDS.

INFORMATION has reached this country that the following awards among others have been made:—

FIRST ORDER OF MERIT.

Arnold, Thomas, & Sons, London....Surgical instruments
Atkinson, J. & E., London....Perfumes, soaps, &c.; Eau-de-Cologne
Barrett & Elers, Westminster....Bottle-stoppers
Blackwood, J., London....Inks
Blanquart et Genevoix, Paris....Chemical and pharmaceutical preparations
Bond, M. A., London....Marking-ink
British Syphon Manufactory, London....Siphons and seltzogenes
Bryant & May, London....Matches
Bush, W. J., & Co., London....Paints and colours
Calvert, F. C., & Co., Manchester....Carbolic acid
Cheavin, George, Boston....Filters
Corbyn, Stacey & Co., London....Chemical and pharmaceutical preparations
Desnoix et Cie., Paris....Chemical and Pharmaceutical preparations
Doulton & Watts, London....Stoneware for chemical purposes
Dunn & Hewitt, London....Essence of coffee
Evans & Wormuld, London....Surgical instruments
Genevoix, E., et Cie., Paris....Chemical and pharmaceutical preparations
Golding, Davis & Co., Widnes, Lancashire....Chemical products
Gosnell, J., & Co., London....Perfumes, soaps, &c.; Eau-de-Cologne
Hayward, Tyler & Co., London....Aerated-water machines
Herrings & Co., London....Pharmaceutical preparations
Husband, H., Bristol....Surveying-instruments, microscopes, &c.
Lemalle & Co., London....Mineral teeth, &c.
Limousin et Cie., Paris....Chemical and pharmaceutical preparations
Lyons, W., Manchester....Coloured writing inks
Maltine Manufacturing Company, London....Pharmaceutical preparations
Mander Brothers, Wolverhampton....Paints, varnishes, &c.
Nicholls, W., & Co....Fluid annatto
Piesse & Lubin, London....Perfumes, soaps, &c.
Poirier, A., Paris....Chemical and pharmaceutical preparations
Poulne et Fils, Paris....Chemical and pharmaceutical preparations
Price's Patent Candle Company, London....Soaps, candles, &c.

Richardson, J., & Co., Leicester....Pharmaceutical preparations
Rigollot & Co., London....Mustard leaves
Rose, Sir W. A., & Co., London....Oils, paints, &c.
Schreiber, F. W., London....Capsules and capsuling machines and tinfoil
Silicate Paint Company, Charlton, Kent....Paints
Smith, T. & H., & Co., Edinburgh....Opium derivatives, café au lait
Solvay et Cie., Paris....Chemical and pharmaceutical preparations
Southall Brothers & Barclay, Birmingham....Pharmaceutical preparations
Stephens, H. C., London....Writing ink, copying ink, and coloured writing inks
Stewart, S. R., & Co., Aberdeen....Hair-combs, &c.
Storer, D., & Sons, Glasgow....Oils and paints
Terry & Sons, York....Medicated lozenges, &c.
Torchon, Ch., Paris....Chemical and pharmaceutical preparations
Waterston, Sons & Stewart, Edinburgh....Sealing-wax
Whiffen, T., London....Quinine preparations and strychnine
Young's Paraffin Light Company, Glasgow....Oils

SECOND ORDER OF MERIT.

Allen, T., Bristol....Invalid's and surgical bedsteads
Arnet de Lisle et Cie., Paris....Chemical and pharmaceutical preparations
Arnold & Sons, London....Surgical instruments
Burgoyne, Burdidges, Cyriax & Parries, London....Essential oils
Crown Perfumery Company, London....Perfumes, soaps, &c.
Harper & Moores, Stourbridge....Stoneware for chemical purposes
Harris, S. & H., London, harness-blackings
Harrison, C. R., Stourbridge....Stoneware for chemical purposes, &c.
Hockin, Wilson & Co., Manchester....Marking-ink
Hottot, A., et Cie., Paris....Chemical and pharmaceutical preparations
Jennings, G., London....Stoneware for chemical purposes
Judson, D., & Sons, London....Artists' materials
Mackay, J., & Co., Edinburgh....Gums, varnishes, &c.
Montreuil Frères, Paris....Chemical and pharmaceutical preparations
Rimmel E., London....Eau de Cologne
Silicated Carbon Filter Company, London....Filters
Stevens, J., Gloucester....Sauces, vinegar, &c.
Thacker, H., & Co., London....Ink
Vignet, A., et Cie., Paris....Chemical and pharmaceutical preparations

THIRD ORDER OF MERIT.

Blackwood, J., & Co., London....Copying-ink and writing-ink
Brefit, E., & Co., London....Glass bottle
Bush, W. J., & Co., London....Perfumes, soaps, &c.
Crosby & Co., London....Surgical instruments (award appealed against)
Farley Iron Company, Farley....Stoneware for chemical purposes
Fleming, A. B., & Co., Edinburgh....Printing and coloured inks
Judson, D., & Co., London....Black writing ink
Lyons, W., Manchester....Black writing ink; sealing-wax
Pickering, J., & Co., Sheffield....Polishing paste
Sykes, Macray & Co., Castleford....Glass bottles
Thacker & Co., London....Copying and writing inks

FOURTH ORDER OF MERIT.

Hamilton, W., Brighton....Surgical couches
Hockin, Wilson & Co., Manchester....Effervescent preparations
Mackay, J., & Co., Edinburgh....Flavouring essences
Stephens, H. C., London....Stains for wood

FIFTH ORDER OF MERIT.

Gray & Halford, London....Artificial eyes

THE COLA NUT.

FROM a report relating to our Colonial possessions, and dealing specially with Gambia, we learn that the trade in cola nuts is an attractive feature in the commerce of the Gambia. The cola nut is the product of the Sierra Leone district, and the trade in it, both at Sierra Leone and the Gambia, is almost entirely in the hands of women, to a large number of whom it affords the means of livelihood, and in many instances, the acquisition of comparative wealth. The nut is largely consumed by the natives of the Gambia. It is of bitter taste, and produces no exhilarating effect, but is said to possess the power of satisfying for a considerable time the cravings of hunger. For this purpose, however, it is much less used than it is as a luxury. The trade in the article is rapidly increasing. In the year 1860, the import was about 150,000 lbs. In 1870, about 416,000 lbs. In 1879, about 743,000 lbs.

JOHN MACKAY.

DURING the past month death has taken from us one of the men in the front rank of pharmacy, and one who held an exceptional place in the regard and esteem of his fellows. The death of John Mackay, of Edinburgh, has caused a sense of sadness as of personal loss among those who knew him but slightly, while those who were among his intimate friends mourn deeply a companion whose place they will not hope to fill in their hearts on this side of life's boundary.



John Mackay

Mr. Mackay was present at the meeting of the Pharmaceutical Council in London on April 6, and seemed almost in his usual health. He was suffering from a bronchitic affection at the time, due probably to the long-continued easterly winds of the period. He attended to his business in Edinburgh until April 12, on which day his illness became much more severe, and after suffering for a week from acute inflammation of the lungs, he died on the morning of Tuesday, April 19, in his 63rd year.

In July, 1874, we published a portrait and a brief sketch of Mr. Mackay's career. Some of the facts there given may be reproduced now with interest. Mr. Mackay was born at Edinburgh in 1818, and at 12 years of age was apprenticed to Messrs. Pugh & Plews of that city. He served with them for six years, his hours of business during a part of his apprenticeship being from 7 A.M. to 11 P.M. on week days, and from 9 A.M. to 10 P.M. on Sundays, the shop being open all day. During his apprenticeship Mr. Mackay managed to attend materia medica lectures in his breakfast hours, and chemistry lectures in his dinner hours. In the session 1833-34 he was appointed class assistant to Dr. John Murray.

Forty years after his early start in commercial life Mr. Mackay was chosen to deliver the opening address to the students at the Bloomsbury Square School of Pharmacy. In that address he earnestly strove to impress upon his hearers the preciousness of spare time, odd moments, unoccupied half-hours. And then, after advocating the employment of such available leisure for personal culture, he urged the unselfish use of the attainments acquired. "Avoid being selfish," he said. "Do not live entirely to yourselves, or simply for your own gratification or pleasure. And in emerging from the life of a student let the man be as determined as the boy not to live to himself, but to view opportunities given for being of service to others as great

and high privileges which he can never value too highly." Though no one was so little aware of it as himself, Mr. Mackay was a remarkable example of the union of those habits and qualities which he pressed upon others. He, the cultured gentleman, chosen to speak on study and education in the name of the Pharmaceutical Society, was formerly the boy who had gone from his school to his work at 12 years of age. Only a habit of "redeeming the time" could have resulted thus. And he, the man of business, with his own tastes and pleasures to gratify, was the one who for 30 years had given up so much leisure time for patient, unostentatious work on behalf of others.

In 1836 he obtained a situation in the house of John Bell & Co., of 338 Oxford Street, London, where he passed two years. The impressions formed and the acquaintances made during that period were life-enduring. John Bell was still the head of the firm, though he was taking things rather easily, driving from his house at Wandsworth in a pony carriage every day except Thursdays, Saturdays, and Sundays, on which days he stayed at home to attend the meetings of his Quaker Chapel. Jacob Bell was behind the counter, Henry Deane had lately left, John Garle was on the staff, and Thomas Hyde Hills arrived a little subsequently to John Mackay. Habits of study, thought, and discussion were prevalent in the house at the time, and in his lecture already alluded to Mr. Mackay recorded the benefits which he and others owed to that organisation.

Returning to Edinburgh in 1838, Mr. Mackay started in business on his own account, faith and patience for some time making up for the absence of customers. In some of his early days he sold nothing all day but a seidlitz powder or some such trifle, but he set to work putting up some proprietary articles, confident that in time he should find a market for them. Business gradually came, and was met with fresh enterprise. The shop of 1838 has developed into a large factory and wholesale warehouse, and for many years now the firm of John Mackay & Co. has held a high and honourable position in the trade. At the time of his death two of his sons, a brother, and a former assistant were associated with him in the business.

When Jacob Bell commenced his labours in organising the Pharmaceutical Society he enlisted Mr. Mackay as his Scotch lieutenant. From 1841 until his death Mr. Mackay, as Hon. Secretary of the North British branch, conducted all the labours connected with that organisation, including the arrangements of the Scotch Board of Examiners. Several times he was asked to take the position of President of the North British branch, but he would never allow himself to be nominated, as he felt that he could better serve the Society in the position which he had made so thoroughly his own.

In 1861, when Mr. J. F. Macfarlan died, Mr. Mackay was unanimously chosen to fill his place on the Pharmaceutical Council. From that time onward he has always been recognised as one of the most thoughtful and most useful members of the Council. One of the earliest subjects in which he interested himself was the improvement of the financial position of the Society's journal. His proposals were at first not very hopefully received. Mr. Waugh, who was on the Council at the time, shook his head and promised to give the Council a dinner at Greenwich if half of Mr. Mackay's anticipations were realised. One year later he admitted that the dinner was due, and he was ready to fulfil his promise. At Mr. Mackay's request, however, he contributed 20% to the Benevolent Fund instead of to the Greenwich landlord.

Mr. Mackay's services to pharmacy were not ungratefully recognised by those with and for whom he worked. In May, 1869, he was honoured with a dinner in Edinburgh, on which occasion a very handsome service of plate was presented to him valued at about 180%. This had been subscribed for both in Scotland and England.

Besides his connection with the Pharmaceutical Society, Mr. Mackay was one of the Governors of the Merchant Company of Edinburgh, and he also served several years on the Council of the Royal Scottish Society of Arts. To that Society he contributed various papers, for one of which—a record of researches in connection with German yeast—he received the Society's silver medal.

In the Pharmaceutical Council Mr. Mackay's speeches were listened to with the greatest respect. As a speaker he

was singularly able and clear. His choice of language was always felicitous, and to fluency he united the rarer ability of wise emphasis. By an almost imperceptible repetition, not at all approaching redundancy, he would enforce the leading ideas which he wished to convey so distinctly that at least no one could disagree with him through not apprehending his argument. He was warm in debate, but he never made an opponent angry. Kindliness, not less than earnestness, was apparent in every public speech, and in every word in private conversation. He was quick, and sometimes, perhaps, only too ready, to detect slights to Scotland or to the North British branch in any documents or reports which came before the Council. But his patriotic jealousy, though certainly sincere, was never unpleasant to any Englishman. It had become such an almost understood arrangement that Mr. Mackay would look after the interests of Scotland that for that very reason those interests were liable to be neglected.

In the society of his friends his humour, gaiety, and joyousness, though predominant, were always subject to the control of his thought for others; and many a social gathering remains more pleasantly in the memory of those who met him because of the reminiscence of a kind, personal expression, or of a quaint extempore oration delivered by John Mackay. He made no show of his opinions or beliefs, but none who came in contact with him failed to recognise that his goodness, his usefulness, and his integrity were the effects of the principles which guided his life. To fulfil with his whole energy the duty which lay before him was so natural to him that he never seemed to question the possibility of any disloyalty on the part of others. His example and influence were strongly felt wherever he was met, and they were always of the highest and worthiest. We could have hoped for ten years more of his valuable services to pharmacy, but we can also be thankful for that which he did accomplish, and for the noble memory which he has left behind.

THE CHEMICAL SOCIETY.

Thursday, April 21.

DR. DEBUS in the chair.

It was announced that a ballot for the election of Fellows would take place at the next meeting, May 5.

The following papers were read:—

"On the Distillation of Mixtures of Carbon Disulphide and Carbon Tetrachloride," by F. D. Brown. The objects of the research were to find the boiling-point of every possible mixture of the two liquids, and the composition of the vapour evolved by any mixture when boiling. Tables and curves giving these results accompany the paper. The author also finds that the composition of the vapour evolved is independent of the pressure under which ebullition takes place.

"On the Estimation of Hydric Peroxide by means of Potassic Permanganate," by W. E. Adeney.

"On the Oxidation of Sulphurous Acid," by H. P. Dixon. The author finds that when sulphur dioxide steam and oxygen are exposed to a temperature of 100° C. no diminution of volume takes place, and therefore no sulphuric acid is formed. If the temperature be allowed to fall, so that water condenses, a slight contraction in volume is observed.

"On the Reduction of Cinnamic Alcohol," by F. Hatton and W. R. Hodgkinson. When this substance is heated to 100° C. for three or four days with sodium amalgam (containing 15 per cent. sodium) and a small quantity of water cinnamene and methylic alcohol are produced.

Thursday, May 5.

DR. ROSCOE, President, in the chair.

The following papers were read:—

"On the Action of Humic Acid on Atmospheric Nitrogen," by E. W. Prevost. The author has repeated some of the experiments of E. Simon (Land Vers Stats XVIII.) on the above action. He is quite unable to confirm the results of that investigator, and concludes that under ordinary circumstances no formation of ammonia takes place when humic acid and nitrogen are allowed to remain in contact.

"On the Active and Inactive Amylamines corresponding

to the Active and Inactive Alcohols of Fermentation," by R. T. Plimpton. The author has prepared and examined the mono-, di-, and tri- amylamines, and some of their compounds. The active amylamines polarise strongly; their salts do not crystallise so well as those of the inactive amyamines; there is also some difference in the boiling-points and specific gravities of these two classes of bodies.

"On the Action of Sodium Alcoholates of Fumaric Ethers," by T. Purdie. An acid is formed which is an ethyl ether malic acid, isomeric with the monethyl malate of Desmoulin. The action of sodium isobutyrate on isobutyl fumarate was also studied. An isobutyl malic acid was formed.

"On the Products of the Action of Alkalies on Ethylic β Ethylacetate Succinate," by L. T. Thorne. An ethylsuccinic acid was obtained by the action of strong potash, identical with that obtained from the α succinate; with weak potash 5 per cent. α -ethyl- β -aceto-propionic acid was obtained, which on boiling gave off water and formed a body $C_7H_{10}O_2$.

"On some Carbazol Compounds," by E. H. Rennie and W. R. Hodgkinson. The authors have studied the action of potassium carbazol on ethyl chlorocarbonate. A new urethane was obtained.

PEPSIN.

By WM. A. WRENN (of Messrs. Wright, Layman & Umney's Laboratory).

Read before the Chemists' Assistants' Association, March 16, 1881.

PEPSIN (the name of which is derived from the Greek word *pepto*, signifying "to digest") is a medicinal product which has given considerable trouble to pharmacists from the first knowledge of its existence to the present time.

Pepsin may be said to have had its origin in the year 1834. The researches of Eberle on artificial digestion first indicated the existence of a distinct digestive principle. In 1836 Schwann isolated the principle and gave it its present name. He obtained it by precipitation from the gastric fluid by means of mercuric chloride, and the subsequent separation of the mercury. Wasmann, in 1839, extracted it from the mucous membrane of the hog's stomach by means of aqueous maceration, precipitation with plumbic acetate, subsequent freeing from the lead, leaving pepsin in solution. This solution was treated with alcohol, which effected its reprecipitation. Finally it was dried with a moderate heat, and reduced to powder.

Various chemists gave their attention to the principle in after years, the most prominent investigators being Dr. Beale, Brücke, and Scheffer; but it is to A. Petit that we owe most, for the very concise manner in which the subject was treated by him.

The conversion of food into blood and tissue is effected through a series of chemical and molecular changes, with the aid of different secretions which nature provides by the organs of digestion. The function of these organs preparatory to assimilation is termed digestion.

I have carefully and minutely studied this important helper of the animal economy, and have found by the results of my experiments, some of which I am about to bring before your notice, and also those taken at various times, that a very great difference exists in the value as a remedial agent of the various preparations of pepsin. I shall not take any particular make of pepsin, and, by comparison with other samples, hold up the same as the best preparation in the market, but simply take a few samples obtained from the principal makers in London and Germany. I shall first draw your attention to the various processes of preparation.

1. Pepsin prepared by the B.P. process.

2. Pepsin prepared according to the directions given in the French Codex.

3. Pepsin prepared by the addition of inert substances, such as starch, powdered sugar of milk, &c.

4. By various processes to obtain pepsin as far as possible in a pure state. I say as far as possible, because the prin-

ciple being such a difficult one to separate without impairing its therapeutic value has probably never been obtained in a state of absolute purity. I have a small sample before me which can be regarded as nearest to the pure state, the only contamination being traces of sodium chloride, the proportion of which, being so minute, can have little or no effect upon the pepsin in reducing its value as a digestive agent; indeed, it has been stated by experimentalists that sodium chloride materially assists the digestive organs.

The B.P. process is the one usually adopted for the manufacture of commercial pepsin. It is as follows:—

"The stomach of a pig, calf, or sheep is carefully washed; the mucous membrane thus cleansed is scraped, and the viscous matter so obtained is spread out upon a sheet of glass or earthenware, and rapidly dried at a temperature not exceeding 100° F. The dry product is powdered and preserved in a stoppered bottle." This is called pepsin.

At first sight this seems to be a very easy and convenient process, and the result regarded as satisfactory, but it cannot be said to be pure. The gastric juice which is scraped off the mucous membrane contains a large amount of epithelium from the glands and surface of the membrane. The energetic laboratory-man scrapes with a vengeance, and with all the pressure he can apply, with the desire of obtaining a large product. But much of his product as a digestive agent is next to useless, and the putrid odour which some samples possess is due to the putrefaction of the fleshy matter so removed in the scraping. Again we find sand, grit, &c., which, unless the greatest care be used in the washing, is almost certain to find its way into the resulting pepsin; and lastly, notwithstanding the large product, together with something we do not want, a small amount is still left behind in spite of the energy of the individual I have alluded to, small, perhaps, compared with a few stomachs, but a considerable item in working upon 1,000. The yield from 1,000 membranes carefully treated by the B.P. process will be about 505 oz., or 50 per cent.

2. *Preparation of the French Codex.*—The stomachs of sheep freshly killed, after having been carefully emptied and washed, are divested of the mucous membrane. This is reduced to a pulp and macerated for two hours in water at a temperature of 15° C.

The mixture is then strained through a coarse strainer, and the liquid which passes through is treated with a solution of neutral acetate of lead. A copious precipitate is the result of this addition. The aqueous portion is syphoned off, precipitate treated with distilled water, through this sulphuretted hydrogen is passed, and to insure the total displacement of the lead, in slight excess. Filtration is now resorted to, and the liquid so obtained evaporated at a temperature not exceeding 45° C. in vessels of a cylindrical shape, to present as small a surface as possible. When it has arrived at the state of a firm paste it is removed with a flexible knife.

Pepsin obtained by this process has a very peculiar odour, and one which distinguishes it from that prepared by the other methods. The strength, which is most variable, is estimated by its action upon fibrin with the aid of lactic acid. The quantities to be used are:—

Pepsin	25 cgr.
Distilled water	25 gr.
Acid lactic, concentrated	40 cgr.
Fibrin	10 gr.

To be digested for 12 hours at a temperature of 45° C.

The reaction of pepsin, French Codex, is acid, and much more so than B.P., and the strength in the ratio of 8 to 10, the latter number representing B.P. pepsin.

3. *Preparation with Starch, &c.*—An infusion of the mucous membrane of fresh stomachs, finely chopped with a knife, is made with water acidulated very slightly with muriatic acid, macerated for several days, frequent agitation being essential. The pepsin contained in the infusion is precipitated by the process suggested in the French Codex—viz, addition of neutral acetate of lead and its subsequent removal by sulphuretted hydrogen; but instead of evaporating to dryness, it is, when a syrupy consistence has been attained, triturated with starch or finely-powdered sugar of milk, and the resulting compound thoroughly dried and reduced to a fine powder. The strength of this pepsin is estimated by its action upon coagulated albumen, and more starch or sugar of milk added to bring it to a required

strength, but most commonly to bring an exorbitant financial recompense to the manufacturer. The patient who is unfortunate enough to be dosed with this article derives no benefit from its administration, and the practitioner who prescribes it, not finding any good accruing from its use, becomes antagonistic to the remedy owing to the fraudulent means resorted to by some makers. Saccharated pepsins are generally neutral in reaction. I have a sample prepared with pulv. saccharum album, and it is a very nice preparation. It is of foreign manufacture, and by careful compounding has been brought to a strength twice that of the B.P.—that is, one grain being sufficient to dissolve 100 grains of hard-boiled white of egg in six hours, the temperature being kept at 100 to 104° Fahr.

Now for the fourth process for the preparation of pepsin, in a state of almost absolute purity:—

As in the other processes the mucous membrane is to be carefully washed; cut into small pieces (the smaller the better), macerate in about five times its weight of distilled water, and 5 per cent. of alcohol added; constantly agitate the mixture, and at the end of six hours filter the liquor and evaporate very gradually until dry enough for powdering. This is a very simple method, and one by which pepsin of great digestive power can be obtained.

Another method, and the one I suggest as the best:—Make an infusion of the mucous membranes of fresh stomachs, cutting them into the minutest portions. (And here let me state that most pepsin can be obtained from the stomach of an animal that has been kept from partaking of any food for at least six hours previous to its death.) I use distilled water, and macerate for several days with frequent agitation, then set aside for 24 hours, in order to allow the pieces of membrane to settle; draw off the clear liquid, and to it add an equal bulk of a saturated solution of sodium chloride. Let the mixture now stand for six hours, and the pepsin will separate, and be found floating upon the surface; skim it off by the aid of a small strainer, in the same manner as cream is separated from milk; place it on a calico filter, and if bleached calico be used let it be well scalded. When the precipitate has well drained, remove it to a fresh piece of calico, and apply strong pressure; dissolve the pressed pepsin in distilled water, and now add alcohol, which will re-precipitate it; drain and press as before, air dry, and then carefully dry by means of a water-bath, at a temperature not much exceeding 90° Fahr., and reduce the product to a fine powder. Pepsin can be thus obtained as nearly in a state of purity as possible.

So much for the preparation. Now let me draw your attention to the tests adopted to estimate the strength of different samples of pepsin made in the various ways adopted by their respective manufacturers, whose names in this paper must be conspicuous by their absence.

Coagulated egg albumen I have used. Fibrin has been suggested as a very good substance, but albumen can be readily coagulated and made ready for use. It is directed in the B.P. to use the albumen in thin shavings. Now, it will be at once apparent that it must be a matter of great difficulty, if not of impossibility, to obtain all the pieces of uniform size. This is very important in taking comparative analyses, as great discrepancy will be the result of the examination if the albumen is not of uniform thickness. If the white of eggs (boiled) be pressed through a piece of perforated tin having very small holes, I think the difficulty will have been overcome.

The strength of the muriatic acid should be 1 per cent.—or even less, I have read, is better—and use 1 oz. The quantity of albumen used is 100 grains; the action to last four hours; the temperature to be kept at 100° F.

I took eight samples, and treated them in the manner described, using variable quantities of pepsin. These I will call 1, 2, 3, 4, 5, 6, 7, and 8. The following gave the least quantity of pepsin that could be used to effect the complete digestion of 100 grains:—

Nos.	Grains	Nos.	Grains
1	= 4	5	= 7
2	= 1½	6	= 9
3	= 2	7	= 13
4	= 4	8	= 13

You see only the first three answered the rest of the B.P.; the others, which were more or less contaminated with starch, gave very bad results, as you have seen. A

friend of mine who has examined some of this description thinks they would be very useful for those gentlemen making microscopical investigations in the starches. I also tried some samples of reputed great strength, some of which are now before me, and the results are highly satisfactory, one sample in particular being capable of effecting the solution of some hundred times its weight.

Thus briefly have I described the various processes by which pepsin is prepared, and in these various states it is found in commerce and known as pepsin. Now let me, although very young to give advice, particularly urge you to experiment upon this substance, which is a highly important one to all pharmacists, and so place before the public a genuine article, and not one that would bring discredit upon us as professional men; for not only will you in the end reap financial reward by preparing the best article and selling at a fair profit, but you will have the satisfaction of knowing that you have conferred a benefit upon sufferers, when, by placing in their hands this well-tried remedy, you will have struck a decided blow against that most miserable of diseases—indigestion.

AMERICAN COTTON-SEED OIL IN ITALY.

THE United States Consul at Naples has published a short report on the importation into Italy of American cotton-seed oil for the adulteration of olive oil. He states that the large recent importation of cotton-seed oil has been a great source of alarm at Naples, on account of its competition with olive oil—one of the leading articles of exportation from that country, and one of which Italy is especially proud, as being to some extent a monopoly. Now the cotton-seed oil threatens not only to make dangerous competition, as being substituted for olive oil for various purposes, but also as bringing olive oil into disrepute as an article of food on account of its adulteration with cotton-seed oil. The latter, we read, has already found its way into the remotest mountain villages, whose sole production is olive oil, where it is mixed with the native article and sold as pure; the statement is made that so great is the resemblance, that even experts cannot detect the mixture. The Italian Government is endeavouring to impose a heavy tax on cotton-seed oil as a protection to the production of olive oil. But even then the protection would be somewhat inadequate, as the cotton-seed oil has already found its way into other countries to which the olive oil was exported, especially into Russia, one of the chief markets, for Italian olive oil. As cotton-seed oil can be exported to Italy, and sold for less than half the value of olive oil, the temptation to use it for the purpose of admixture is sufficiently obvious.

THE GERMAN SODA TRADE.

FROM an official report published at Frankfort-on-the-Main, we learn that in 1875 there were in Germany, inclusive of Alsace-Lorraine, 21 soda factories, producing about 1,000,000 of centners of soda, mostly calcined, per annum. One establishment at Mannheim delivered about 300,000 centners. Three other establishments have lately ceased to operate. It is stated that the import of foreign soda amounts to about 56 per cent. of the total domestic production. The imports are drawn principally from England, Belgium, and Holland; also more than formerly from Austria and France. Until the year 1865, the German tariff discriminated only between purified and unpurified soda, both, with some special exceptions, paying an import duty of three marks per centner. In 1865, the tariff made the classification which has since been in vogue, of raw, natural, artificial, crystallised, and calcined soda. The kind first named paid a duty of about 9*d.* per centner, the last 2*s.*, and caustic 3*s.* In Germany, as is well known, protectionist ideas prevail to a great extent, and therefore it is not surprising that an increase of duty on imported soda has been asked for by the manufacturers in that country. It is said that English manufacturers, for instance, possess an undoubted advantage in regard to cheaper raw materials, and the ability to produce larger quantities. This certainly

appears a somewhat extraordinary argument. It is further alleged that three of the largest factories in England produce as much soda as all those in Germany—which is refreshing intelligence; and it is complained that there is no place in Germany where coal and alkali are found so near together as they are in this country. Another argument adduced on behalf of the Teuton manufacturers—and this applies especially to France—is in regard to the process invented by Mr. Solvay, which seems to hold about the same relation to the soda-producing industry as the Bessemer process does to steel. This process, by which soda can be produced from salt and ammonia, has been adopted in France; while in Germany the system of Le Blanc is kept in vogue. The Solvay method, we learn, is only employed in few German factories, as the conditions of production there are not favourable for its adoption.

THE PALM OIL TRADE.

ACCORDING to an official report on the trade of Liberia, the palm oil business is carried on there in a somewhat peculiar manner. It appears that recently this business has been a source of annoyance to the trading classes of Liberia. The price of the oil has materially fallen, in consequence of the general commercial depression in Europe; and to induce the native population, upon whom the traders depend for their supplies of oil, to bring their oil to the factories, and sell it at a reduced price, is a very difficult matter. They know nothing comparatively of the European markets, and care nothing about the price the trader gets for his oil when casked and shipped. At Grand Bassa troubles occurred between the factory men and the natives; and on the refusal of the latter to sell oil at the trader's prices, in not a few instances the oil was taken from the natives by force, and they were driven off, and not infrequently beaten. A convention of traders was called at Bassa to settle the price of oil; but those who procure the oil were not informed of the conference, nor invited to attend. The oil, we read, is paid for ordinarily in goods, and when 40 cents per gallon were paid, the goods amounted to 20 per cent only in honest valuation. The native people have not a very exalted opinion of the honourable dealing of the mercantile classes with whom they have business relations. The kernels of the palm constitute quite as important an article of trade as the oil. It is stated that sufficient soap might be made from the oil of the palm to form a permanent and fairly profitable industry. The Mandingoes sell a soap of their own manufacture, which is excellent for ordinary purposes, and is a very good article for the bath.

CINCHONA CULTIVATION IN JAMAICA.

FROM the Jamaica blue-book which has been recently published we learn that the cinchona plantations have received great attention of late, and their present state of cultivation, and the success which has now attended the experiment of cinchona cultivation in Jamaica, may well be a matter of congratulation and encouragement to intending cultivators. It has been proved by this success that another valuable product can be added to the list of island staples, if only the enterprise is at hand to embark in its cultivation. With regard to the system of cultivation hitherto carried out on the plantation, that of wide planting having been recognised as a mistake and abandoned, it is anticipated that the close planting now being established will give far more satisfactory results than has ever yet been attained, apart from the smaller area of land that will require to be kept up in proportion to the number of trees planted. The cultivation of *C. officinalis*, left off in 1873, has been resumed, and the prices (ranging from 5*s.* 9*d.* to 10*s.* per pound) realized for the bark of this species, seem fully to justify this step. This species, which was not favoured by the late superintendent on account of the small quantity of its yield and its limited success at lower elevations, appears better adapted for cultivation at the higher ones of from 4,500 to 6,000 feet, and a proof exists in the shape of several acres of a uniform growth of self-sown seedlings on Latimer

Plantation on the St. Andrew's slope of the Blue Mountain Range, between Grant's Peak and Mercer's Gap; or, to come nearer, all about the St. Andrew's side of "New Haven Gap." During the year 1879, 48,286 trees were propagated, and set out in their permanent places, and land prepared for about 9,000 more, which will be shortly planted out. It was reported that 65,000 plants in all stages were in the propagating houses when the annual report was sent in. Of the money results of this plantation it may be mentioned that one shipment of 2,500 lbs. of bark which was sent to the London market during the year, and part of which indeed had been rather damaged in transit, realized at good prices the sum of 425*l.* 11*s.* 2*d.* It was recently estimated that the plantation from its commencement had cost 15,000*l.*, of which 5,000*l.* might be fairly put down to experiments in pioneer's work, and that while 8,000*l.* would be realized in this and the next years, an annual receipt of 2,500*l.* might thereafter be expected. Jalap cultivation is still continued at this plantation to a limited extent, and during the year 1879, 14,924 lbs. of the tubes were produced, which sold in the colony in a green state for 62*l.* 3*s.* 8*d.*

POISONING CASES.

On April 8, at Bristol, James Fifoot, lodging at a public house, sent the landlady's daughter for a 2*s.* 9*d.* bottle of chlorodyne, saying that he intended to take it as he could not sleep at night. He emptied all the contents into a glass, and after mixing three pennyworth of brandy with it, swallowed it. He soon became unconscious, and died next day.

On April 18, James Campbell, aged 6 years, died at Annan from the effects of hemlock roots (*Euanthe crocata*?), eaten in mistake for earth nuts. Three companions, three years older, who had been with him along the river side, were also seriously ill, but recovered under medical treatment.

On April 20, Susan Luscombe, laundress, committed suicide in Plymouth Cemetery, by swallowing a quantity of carbolic acid. She had been engaged for six years to a young man who died recently.

An inquest was held at Burton, on April 16, on the body of Mrs. Fanny Bawley. She had been found dead in bed. The bed clothes were not disarranged, and a tumbler containing a few drops of chloral was found in the room. The jury were of opinion that death had been caused by an overdose of chloral.

A strange case has occurred at Fenny Bentley, Derbyshire. A youth named R. G. Fare, on March 29, found a hen's egg in a field, the contents of which he sucked, remarking to one of his companions that it was rather bitter and that it was chipped as if it had been pecked by a hen. Not long after he felt sick and tried to vomit, but failed. Some mustard and water was given him which produced the desired effect. He had to be carried into the house, and vomited at intervals for nearly an hour. Convulsions set in, and when P. R. Littleton, surgeon, Ashbourne, arrived, there was well-marked arching of the spine. The tetanic convulsion also began at the extremities and ended at the lower jaw. Both these are symptoms of strychnine poisoning. He died in a convulsion about midnight. The contents of the stomach and the vomit on analysis were found to contain large quantities of strychnine. All attempts to discover who had placed the egg in the field failed entirely. The jury returned a verdict of death by misadventure.

At Oswaldtwistle, on May 5, a labourer named Wilson made an eccentric attempt to poison himself. He sent for some hartshorn and oil and drank it. Medical aid was procured, and he soon recovered.

On April 12 an inquest was held on the body of G. H. Lovatt, hop merchant, who had been found dead on the floor of his office on the previous Wednesday. On his desk were found a small bottle of prussic acid, a larger one of potassium cyanide, and a gallipot containing a small quantity of a liquid smelling strongly of prussic acid. Mr. Langford Anderson, a medical student and friend of the deceased, deposed to being questioned by the deceased as to how much poison it would take to kill a man, and stated that the deceased appeared lately to be labouring under delusions. He had since learned that the prussic acid had been obtained

under the pretence that it was to kill a dog. The jury returned a verdict of "Suicide during mental derangement."

At Newcastle, on April 11, an inquest was held on the body of Joseph Armstrong, a ship painter. Whilst painting a vessel at Walker he fell from the platform to a floating raft below, and then rolled into the river. His paint-pot upset partly on to the raft and partly into the river, and a portion of the contents entered his mouth while he was in the water. After he was rescued a quantity of paint was washed from his face, and subsequently he vomited what appeared to be red paint. As he did not think himself to be ill, he refused to call a doctor, and on April 9 he expired. The jury returned a verdict to the effect that the deceased died from poisoning, having swallowed, whilst in the river, a quantity of red paint.

On April 8, at Sevenoaks, a child six years old picked a leaf of the *Arum maculatum*, or lords and ladies, and ate it. A few hours later vomiting came on, and death took place early next morning. Dr. Alliot, at a post-mortem examination, found the cause of death was poisoning by the arum.

At Pwllheli, on April 11, an adjourned inquest was held touching the death of Mary Williams. She had purchased rat poison a fortnight previously, and a week later complained of being ill, and having an offensive taste on her tongue similar to that of phosphorus matches, which she attributed to the fumes from the poison, which she stated she had thrown in the fire. A post-mortem examination showed that the internal organs of the deceased were affected with phosphorus, and that she had died from having partaken of the rat poison. There being no evidence that deceased had intentionally taken the poison, the jury returned a verdict of "Accidental death."

At Liverpool, on April 12, a young woman named Annie Kirkpatrick committed suicide by taking crude carbolic acid.

An inquest was held at West Hartlepool on April 30, on the body of Hector Allister, aged 10, who had died rather suddenly. It had been reported that he had been poisoned by a quantity of sweets which he had eaten. The medical examination showed that death was caused by suppressed scarlatina.—On April 20 John Jarvey, a clerk, 28 years of age, committed suicide by swallowing a quantity of prussic acid. No evidence was given to show how the acid had been obtained.

On April 28, at Glasgow, Charles Smith, shoemaker, attempted to commit suicide by poisoning himself. He had been drinking freely for some time, and feeling depressed in the morning, he swallowed twopennyworth of oxalic acid which he had in the house for the purposes of his trade. He was removed to the infirmary.

Esther Martin was charged at Westminster, on May 7, with attempting to commit suicide. She had taken four-pennyworth of laudanum, part purchased at Hudson's, 192 Fulham Road, and part at Bartlett's, Britten Terrace, Fulham Road. She was remanded for inquiries.

Elizabeth Harpham was charged at the Manchester Assizes with murdering her son, Walter Harpham, by administering laudanum to him under circumstances reported on page 111 of our March issue. She was found "Not guilty," on the ground of insanity, and was ordered to be detained during Her Majesty's pleasure.

An inquest was held at Deeping, Spalding, on April 20 on the body of George Gee, who had committed suicide by swallowing a packet of vermin-killer. A woman named Margaret Adams, on April 1, took some belladonna liniment in mistake for a mixture, and died in spite of the attention of the infirmary doctors.

On April 12, at Middlesborough, a man named Peter Smith was found dead in a lodging house, with two bottles of laudanum near him.

On May 7 a lad, named Robert Girvan, died at Campbelltown, N.B., from the effects of hemlock root, which he had found and eaten.

On May 6, Evelyn Boxes, aged one year and three-quarters, drank some carbolic acid from a saucer, and died shortly after.

On April 22, Agnes Wild, aged 4, left by her mother alone in a room, got at a box of lucifer matches and ate the heads. She died an hour later.

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For full particulars, see CHEMISTS' AND DRUGGISTS'
DIARY, pages 60, 116, 172, 179, 183, 194, 197, 198,
and 213.

ELLIMAN'S EMBROCATION. See page 132.

MAY & BAKER. { SPECIAL NOTICE,
72 CAMPHOR, page 2.
See also page 19.

EDITORIAL NOTES.

THE ROYAL COMMISSION ON MEDICAL LEGISLATION.

The London Gazette of May 3 contains a notice that the
Queen has been pleased to issue a Commission under her
Royal Sign Manual for the purpose of making further in-
quiries into the conditions under which persons should be
permitted to represent themselves as qualified medical prac-
titioners, with a view to legislation thereon. The Commis-
sion consists of the following persons:—The Earl of Cam-
perdown, the Bishop of Peterborough, the Master of the
Rolls, Sir William Jenner, Mr. John Simon, Professor

Huxley, Dr. Robert M'Donnell, Mr. William Turner, and Mr. James Bryce, with Mr. John White, Barrister-at-Law, as secretary to the Commission.

As will be seen from our report of the proceedings of the Pharmaceutical Council, an attempt will be made by the Council to be heard by that Commission, and sanguine views seem to be held in some quarters as to the effect of being heard there. The Pharmacy Bill rejected by the Privy Council, and not enthusiastically cared for by the trade, has dropped into comparative obscurity. Whether it will ever get introduced into Parliament is, in our opinion, very doubtful; whether it will ever get through a Parliamentary voyage in any useful condition is almost not doubtful. But the trade will not be wise to expect any practical benefits to result for them from this Royal Commission. The Commission is not at all likely to regard pharmacy as coming within the range of their vision. There can be but few pharmacists who would wish that their occupation should be in any degree legally recognised as a part of the medical profession. The theory does very well in speeches at dinners, but a moment's thought will satisfy most chemists of the undesirable nature of any such association. When two ride the same horse one must ride behind, and we are yet too modest to expect that Her Majesty's trusty and well-beloved commissioners would give us the front place. It is, of course, very desirable that a sound pharmaceutical view of counter-practice should be presented to the Royal Commission, as the opposite view will, no doubt, get before, and we do not recognise any person on the Commission particularly likely to look after chemists' interests. The claim to a share in the work of pharmacopœia revision is also to be made if an opportunity is presented, and while we honour the gallant pursuit of glory thus indicated, we venture to think the result, if attained, would be hardly worth the eloquence already spent and about to be spent upon it.

THE ANNUAL REPORTS.

THE Pharmaceutical Society's annual report for 1880, to be presented to the annual meeting on May 18, contrasts rather unhappily in a financial sense with that of previous years. In 1879 a net 2,000*l.* was added to the accumulated funds of the Society. This year the receipts have not balanced the expenditure by some 350*l.* The difference is accounted for mainly as follows:—About 500*l.* less has been received in the way of examination fees. For instance, 1,276 Preliminary examination fees were paid in 1880 against 1,480 in 1879. The cost of examinations meanwhile have increased by some 30*l.* Law charges in 1880 were 1,169*l.* 13*s.* 5*d.*, including 819*l.* 9*s.* 2*d.* as cost of the trial which went to the House of Lords. In 1879 law charges figured for 273*l.* 19*s.* 7*d.* only. Then there are special items of the library catalogue, 362*l.* 3*s.* 9*d.*, and the "Progress of Pharmacy" 481*l.* 6*s.* 4*d.*, which may fairly be regarded as exceptional. It may be noted that the *conversazione* for 1880 cost 200*l.*, against 111*l.* in 1879, and that the exhibition of apparatus, which occurred for the first time last year, cost 167*l.* 17*s.* 3*d.* The tone of the report is naturally and necessarily a mournful one. After explaining the extra expenditure and giving some few details about the Library and Museum, the authors of the report treat us to the following choicely-worded paragraph:—

The papers supplied for the Evening Meetings during the past session, though satisfactory in quality, have been scarcely so numerous as could be desired. This is to be regretted as, in addition to the more scientific papers, subjects of practical interest frequently occur to the pharmacist in the exercise of his vocation, the investigation of which would be of general service.

That is the limited number, and the satisfactory quality of the papers at the evening meetings are to be regretted, because scientific papers and subjects of practical interest occur to the pharmacist in the exercise of his vocation. There is surely a missing link somewhere.

The statement a little further on that "a draft Pharmacy Bill has been prepared and sent to the Lord President of the Privy Council, who has consented to receive a deputation from the Council on the subject" is misleading, as it omits the rather important intermediate fact in the history that his Lordship has declined to take charge of the Bill.

There is one other statement in the report to which attention ought to be directed. Referring to the Benevolent Fund, we are told in a tone of reproach that

Out of 13,462 chemists and druggists on the Register less than 2,000 contribute to the Benevolent Fund, whilst a large proportion of the applications for assistance are from persons who have never contributed.

That sentence is contrary to the essence and spirit of benevolence. There are many, we believe, who might contribute to the Fund who do not do so. We think if they knew how much valuable relief is administered by it, they would be only too happy to share in the work of charity. But it is unreasonable as well as ungenerous to expect that those who apply for assistance should have been contributors. They are just the very people we should not expect to find. The council seem to intimate that a man ought to be ashamed to ask for aid from the fund unless he had previously subscribed to it.

The Executive Committee of the Chemists and Druggists' Trade Association issue a report which will be submitted to the annual meeting on the 17th inst. In it they relate what has been done by the executive in defending members prosecuted under the Sale of Food and Drugs Act and the Weights and Measures Act. They have also considered several and prosecuted one case of infringement of the Pharmacy Act. They have arbitrated in a dispute between members, and they have considered the Pharmacy Bill, Medical Act Amendment Bill, and the question of Jury Service. It will be generally acknowledged that the Committee are justly entitled to make the following assertion. They say of the defence of a spirit of nitre case:—This is the only case under the [Sale of Food and Drugs] Act which the Association has been called upon to defend during the past year, and your Committee congratulates the trade on the significant fact that prosecutions against chemists and druggists for the sale of adulterated drugs is becoming year by year more rare. It will be within the recollection of the members that before the Association came into existence such prosecutions were of very frequent occurrence.

The Association have erased from their books the names of all defaulting members, which makes their numerical strength appear somewhat lower. They number, however, the very respectable total of 4,345 subscribers. We are sorry to observe a deficiency of something over 200*l.* in their statements of receipts and expenditure.

THE JAMAICA PHARMACY ACT.

A RATHER remarkable Pharmacy Act has lately been passed by the Jamaica Legislature, and will come into effect on July 1 of this year.

After repealing the previous Colonial Act of 15 Vict. c. 7, it provides that only licensed persons shall be permitted to sell or keep open shop for retailing, dispensing, or compounding any drug or poison. Exempted from this clause, however, are: Sales of such drugs or poisons to licensed persons; sales of patent or proprietary and homœopathic medicines, if sold in packages as imported into the island,

or prepared by a licensed person, and bearing his label; sales of mineral or artificial waters or salts for their preparation; sales of assafoetida, camphor, castor oil, epsom salts, linseed meal, senna, rhubarb, and carbonate of magnesia (expressly exempted by schedule); sales of any vegetable, gum, or seed, except poisons, in its natural state, though the same may be employed in medicine; and sales of substances which, though poisons, are required for artistic, industrial, manufacturing, or scientific purposes, subject, however, to the usual regulations affecting the sale of poisons.

The granting of licences under this Act is entrusted to the superintending medical officer of the island. Either he or one or more persons licensed under the Act whom he may depute is to examine any applicant for a licence, and if the superintending medical officer is satisfied with the result of the examination he is to grant a licence. A fee of not more than 2*l.* is to be paid for such examination, and is to be carried to the credit of the General Revenue. Registered medical practitioners are to be regarded as licensed, and any person possessing a diploma or certificate entitling him to practise as a pharmaceutical chemist, chemist and druggist, or apothecary in any part of the United Kingdom may receive a licence without fee.

A list of all licensed persons is to be published in the *Jamaica Gazette* once a year.

A licensed person may not leave open that part of his shop kept for the sale and dispensing of drugs and poisons except under the charge of another duly licensed person. For offence against this section he is liable to a penalty of 5*l.*

He is liable to a penalty of 10*l.* if he have in his possession any drug or medicine in a stale or unwholesome state or in a state unfit for use, or if he sell or expose for sale as unadulterated any drug or medicine that is adulterated. Such condemned articles are to be seized and destroyed, and the penalty is irrespective of any other penalty to which he may be subject.

For the purposes of this section the superintending medical officer is authorised to visit and search any drug store, examine the drugs and medicines, and take samples of any of which further examination may be necessary. Such samples are to be divided into two parts, and each part sealed up. One is to be sent to the island chemist for analysis, and the other is to be left with the druggist for him to get independent examination, if he should so desire. All poisons are to be sold under similar conditions as are required here for those included in Part I. of the schedule. The Jamaica schedule corresponds to that in our British Act, with the addition of the following:—Antimony and its salts, verdigris, sulphate of copper, carbolic acid, croton oil, elaterium, laurel water, and corium.

The last clause of the Act provides that it shall be lawful for the justices, in any case of conviction of a licensed person for offences under the Act, to order the licence of such person to be suspended for any period not exceeding six calendar months.

GERMAN PHARMACY.

A GLANCE down the advertisements of the *Pharmaceutische Zeitung* will give some idea of the pecuniary results of pharmacy in Germany, where it has attained the most professional position possible, and where the number of pharmacists actually in business is regulated, and their business protected, by law.

The advertisements for assistants are particularly notable for the many who require a knowledge of some foreign language. In Baden, an acquaintance with French is desirable. A gentleman at Creuzberg, who publicly announces that he is com-

pelled to part with his present assistant on account of drunkenness, wants a "solid, steady" gentleman familiar with low Dutch, to whom he offers 3*l.* 15*s.* per month. At Flensburg the Danish, and at Gratz the Polish, language is a requirement. In a pleasant town of Westphalia a gentleman is wanted whom "his principal can trust in every respect"; those who desire a permanent situation are requested to apply; the salary to commence with is 75*l.* per annum, and the gentleman is to keep himself. There is a chance at Lensen, where a gentleman of good appearance is wanted to dispense about 14 prescriptions daily and fill up his time with retail and laboratory work for a salary of 25*l.* a year. One gentleman offers 3*l.* 18*s.* per month, and suggestively inserts "(excl. Weihn.)," which we take to mean "exclusive of Christmas-boxes." Another firm wants to find a well-recommended young man who would regard the opportunity of improvement in his business as preferable to a high salary. Another gentleman wants an improver "of the evangelical confession," and offers "10*s.* per month pocket-money."

The advertisements of assistants offer no point of interest, but the next section is a pretty thing to cultivate, especially for the *Zeitung*. In the number before us it consists of nine advertisements announcing that the place is filled, and expressing best thanks to gentlemen who have made application.

The turnover of businesses advertised seems to run from 4,000 marks (200*l.*) up to 40,000 marks to 50,000 marks. The price of the business is generally valued at about six times the turnover, but almost invariably a price is fixed as entrance payment, generally somewhat less than half the full figure. Thus, for instance, there is a business in Westphalia for sale, returns nearly 12,000 marks (four-fifths prescription business), which is offered for 76,000 marks full price, 30,000 marks entrance payment.

Among the other business proposals in the journal referred to occurs the following, but we do not know whether it is exceptional or frequent. "Marriage.—An apothecary-owner in the country, aged 35, widower, wishes to enter into correspondence with a lady (widow or maiden) with a view to marriage. The advertiser does not lay so much stress on great possessions as on pleasant exterior, good health, and domestic talents. Ladies are requested to communicate particulars in confidence, which is guaranteed on the advertiser's word of honour."

A BOTANICAL EXCHANGE SOCIETY.

WE printed last month a communication which we received from Mr. Henry J. Pratt, pharmaceutical chemist, York, who, with Mr. Wm. Kinson, of Rye, and other botanical friends over Great Britain and Ireland, is endeavouring to establish a Botanical Exchange for the United Kingdom. The object is to enable botanists in every part of England to get into communication easily with their fellow-botanists in other counties or districts, so as to exchange specimens of local flora, to distribute seeds, young plants, and medicinal herbs through the country; to bring to light partially-known virtues and uses of native plants, and to test these. The sum of 5*s.* per annum is asked from members to defray expenses, and pharmacists, the medical profession, the clergy, gentry, and ladies are particularly asked to join.

It is refreshing to hear of a society suggested among us which does not base its claim for existence on a grievance or on a plan for making money. The only condition expected or required in this association is an interest in a pursuit which can only yield pleasure and benefit, not only to those directly concerned, but to the rest of the world who enter into the labour of botanists without a thought as to

the patient investigation which has learned so much as to the processes of nature. Such a society would certainly accomplish some good, and it may be that this note may bring it before some who will be thankful to have information of its existence.

THE CENSUS OF THE CITY.

ABOUT the most absurd way of spending twelve hundred pounds was that adopted by the City of London in preparing a census of the City proper. The information aimed at is desirable enough; the process adopted to get it was crude in the extreme, and there is no sort of guarantee that the resulting figures will even approach accuracy. Occupiers of premises were asked to furnish their names and "description." The latter term probably meant the designation of their business. Then there were three spaces in which were to be inserted the number of males, females, and children respectively "employed, or on the premises during that day." If these figures are calculated literally according to the instructions the occupiers themselves will not be counted, but thousands, perhaps scores of thousands, of people employed by City firms, but only occasionally visiting the City, will be included, in some cases two or three times over. More than this, a return exactly made will include all the customers as callers at shops and offices during the day. We do not suppose that the City Fathers wanted this, but they have certainly asked for it, and in some instances have, no doubt, got it. Add to all that they had no legal authority to compel a return, and the wild unreliability of their statistics may be estimated. It would have been cheaper, and quite as trustworthy, to have guessed a City census.

THE SOCIETY OF CHEMICAL INDUSTRY.

WE understand that this Society, whose formation we reported last month, has received influential support, and is pretty sure to secure its rightful position in the learned world. Rightly worked, it will be a scientific development of commerce and a commercial incentive to science. It is desired, we understand, that as many as are interested in its objects will send in their names to the secretaries for membership. An advertisement in this number gives particulars.

It is intended to hold a two days' meeting in London towards the end of the month of June, and from what we hear subjects of considerable importance will be brought forward on that occasion by men of the first eminence.

THE PHARMACOPŒIA.

THE following discussion took place in the General Medical Council on the first day of its recent session:—

Dr. Pitman, in moving the appointment of a Pharmacopœia Committee, deprecated any intention of issuing a new pharmacopœia, four thousand copies of the old one being still on hand. He urged the appointment as being desirable for reporting annually to the Council.

Sir Wm. Gull, seconding the motion, thought the committee ought to prepare an annual addendum. He owed nothing to the official book, but was much indebted to Mr. Squire's volume. A book fourteen years old was useless as a pharmacopœia.

Dr. A. Smith supported this proposition. Last year seven hundred copies of the pharmacopœia were sold, so that a new edition would be required in three years. He hoped the committee might do something in three months.

Mr. Macnamara thought it useless to re-appoint a committee to do nothing, and strongly endorsed Sir W. Gull's suggestion. Revision would be a lengthy and heavy work, and would scarcely be ended till the new edition was needed.

Mr. Simon suggested that frequent changes in the pharmacopœia would do harm. He thought, however, the Council should supervise the work constantly, and would support the motion. He hoped serious changes would not be often made in the work.

Dr. Pitman expressed gratification at the way in which the motion was received.

The motion was then carried.

Sir Wm. Gull proposed that yearly reports be made to the Council by this Committee, as to addenda to the pharmacopœia.

Dr. Pyle seconded the motion, which was carried.

Evidently the only certain way of getting a new pharmacopœia out of the Medical Council would be to buy up the 4,000 copies of the old one still on hand. Dr. Aquilla Smith's arithmetic, or else ours, must be at fault, for it seems to us that at the rate of 700 copies per annum, it will take nearly six years instead of three to clear out the old stock.

DENTAL NEWS.

AT the recent meeting of the General Medical Council a discussion resulted from the application of certain surgeons, who are also registered as dentists, asking that the surgical qualification should appear in the Dentists' Register with those names entitled to bear it. The Council had at their previous session resolved "that all statements with reference to the practice of medicine, surgery, and pharmacy now appearing in the Dentists' Register be erased therefrom." The Act states that the Register should contain a list of dentists with the qualifications in respect of which they were registered, and "such particulars and in such a form as the General Council may from time to time direct." The opinion of counsel was that the only additional qualifications which should appear on the Register were such as should express or imply a fitness to practise dentistry. The question debated, therefore, was whether the possession of a surgical qualification implies a superior degree of fitness to practise dental surgery. The Council ultimately resolved, by 13 votes to 5, to insert such qualification.

The financial statement of the Dental section of the Medical Council showed that the realised capital is 9,824*l.* 8*s.* 11*d.*, but it was also pointed out that the estimate of the registrar showed a probable annual income of only about 524*l.*, with a certain expenditure of about 1,407*l.* Statisticians may, therefore, calculate how long the Dental section may reckon on solvency.

The British Dental Association, as represented by its journal, at first accepted with some degree of grace the decision of the General Medical Council in reference to the questions raised by the Association and its legal adviser as to the legitimate registration of certain dentists. After a month's reflection, however, an article is published indicating a different spirit. "These conflicting opinions," says the journal, "are no settlement of the doubt. The only mode of settling the matter finally is by a legal prosecution. A case submitted to the courts, if successful, would at once purge the Register of hundreds of names that have not and never had the shadow of right to be there; but how is this to be effected?" It is then explained that money, or rather the want of it, is the trouble, but given a new and sufficient supply of this, the Executive Committee undertakes to waste it in the courts in order to get a final answer. The Asso-

ciation, in fact, occupy just the converse position of the music-hall patriots of a year or two ago. They *do* want to fight, but they *haven't* got the money.

LINCOLNSHIRE HORSE POISONING.

LINCOLNSHIRE horse keepers seem to have an amazing weakness for poisoning the horses under their charge, and cases are continually recurring in their police courts, of grooms and others being severely sentenced, because they had shown too great an anxiety to get a fine coat on the animals. But Lincolnshire horses must be peculiarly delicate, if the evidence given in a case at Brigg, which we report in another part of this journal, be reliable. Three horses are alleged to have died in consequence of teaspoonful doses repeated twice a week between January and April of the following mixture: cream of tartar, liver of antimony, diapente, elecampane, grains of paradise, and ground resin. Three weeks' hard labour seems an extraordinary punishment, if this is a correct statement of the "restorative" administered by the horsekeeper.



AND

Literary Notes.

The Proceedings of the American Pharmaceutical Association for 1880. The 28th volume reaches us this year as a bound volume of 650 pages. It contains a steel portrait of Professor W. B. Chapman, M.D., of Cincinnati, one of the early presidents of the Association. This gentleman, it appears, died in October, 1874, so that the editors of the Proceedings cannot be said to have acted with undue precipitancy in the publication of his portrait. About half of the volume consists of the usual abstracts of papers published in the various pharmaceutical journals of the world during the year between July 1, 1879, and June 30, 1880, edited by Mr. C. Lewis Diehl. The section on apparatus, with illustrations, is very useful, and might with advantage be introduced into the English "Year-book," though, of course, the danger exists that somebody might get advertised. We can scarcely admire the genius of the American editors for classification, which they carry to an extreme extent, as, for instance, when a formula for Carlsbad Salts is given under "Sodium." There is, as mentioned, a section for Apparatus, but a new tincture press is figured under "tinctures." Mr. Diehl, in consequence of multiplicity of duties, has omitted the usual introductory review this year to his report, and by a happy coincidence he has at just the same time come to doubt "the necessity and even the utility of such an introductory." He forgets that the majority of his readers are, perhaps, not quite so competent as himself to judge of the relative importance and novelty of the various subjects treated among his abstracts. The papers read at the Saratoga meeting of the Association last September, which are also included in this volume, are few, and are not of very general interest. The interest in elixirs, the Saratoga springs, and, to a great extent, in fluid extracts and fruit syrups, is mainly American. The author of the latter paper (Mr. A. G. Vogeler, Chicago), while objecting to the multiplication of formulæ in the Pharmacopœia, thinks a syrup of raspberry would be a useful addition. It is especially useful, he thinks, as an agreeable addition to saline antifebrile mixtures, and in potions otherwise insipid, such as solutions of pepsine. This syrup can be made either by pressing the juice from the fruit and combining with sugar, or by macerating the unimpaired berries (1 lb.) with sugar (1½ lb.) in alternate layers. The addition of a little alcohol is desirable. Dr. Oscar Oldberg contributes a long paper on pharmacopœial nomenclature. His recommendations are (a) to call volatile oils "etherolea,"

(b) to adopt the Berzelian nomenclature of chemicals directly translated into Latin; and (c) to invent a somewhat similar system for galenical preparations. A few examples will indicate Dr. Oldberg's idea:—*Ferricum chloridum*, *ferricus citras vinum*, *ferrosus lactas*, *ferrosus bromidum syrupus*, *ferrico-ammonicus tartaras*, *gentiana tinctura composita*, *hydrargyricum chloridum corrosivum*, *hydrargyrosus chloridum mite*, *hydrargyrum creta*, *hyoscyamus folia tinctura*, *hyoscyamus semina tinctura*, *opium tinctura*, *rheum pilule*. It will be observed that this plan, while it violates classical Latin, has the advantage of bringing together in any alphabetical arrangement all the preparations of any particular substance. That is, for example, tincture of opium would be among the "opiums," not among the tinctures. Dr. Oldberg's paper seems worthy of attention.

Mr. G. W. Kennedy gives the following formula for a fluid extract of *rhamnus purshiana*, which, it appears, is also used as a mild purgative, but is not stated to have any particular advantage over *rhamnus frangula*:—16 oz. of the drug are reduced to a moderately fine powder, and macerated in a percolator for four days with 6½ oz. alcohol (95 per cent.) and 3½ oz. water. Afterwards 10 oz. are obtained by percolation. This is reserved, the drug is exhausted, the fluids mixed, evaporated to 4 oz., and 1 oz. of alcohol added.

Our space will only allow us to add a formula for syrup of licorice root, recommended by Mr. A. G. Vogeler:—Licorice root cut small and sifted (to free it from dust), 8 oz. troy. Macerate in a percolator for two or three days with 16 oz. water and ½ oz. ammonia water, and draw off. Add another similar menstruum and afterwards a third supply, in each case following the process described. Mix the infusions, shake with 4 drachms magnesium carbonate, filter, evaporate to 16 fl. oz., strain, make up to 16 fl. oz., and dissolve 24 troy oz. of sugar in the liquid, raising the temperature to boiling. When cold add 2 fl. oz. of alcohol.

The History of Salt: with Observations on its Geographical Distribution, Geological Formation, and Medicinal and Dietetic Properties. By Evan Marlett Boddy, F.R.C.S. London: Baillière & Co.

WE were not aware previously that one of the "peculiar crazes of the day" consisted in an "unhealthful and insensate antipathy to salt." Mr. Boddy tells us that this craze has intimated in a greater or less degree the several strata of society. To combat this alarming danger in our midst Mr. Boddy has written this treatise. He must, therefore, be content to have the necessity of his book judged by the prevalence of the notion to which he refers, this "latitude of pragmatism ignorance and silly egotism," as he puts it. For ourselves, we rather question whether there exist at the present moment 50 persons in the British Isles who need Mr. Boddy's array of facts and arguments historical, scientific, medical, and theological, to enforce the text on his title-page, "Salt is Good." There are surely follies and crimes enough in the world without imagining new ones just for the sake of justifying treatises. As a collection of facts concerning salt the book would have commanded the respect due to every careful piece of work; but as a crusade, in which light the writer offers it, we are afraid it has but very slight *raison d'être*. No criticism of the book can be complete without including the condemnation of sentences like the following scattered through the book:—"Such imaginative plerophory is invariably antagonistic to scientific conclusions and common-sense principles, besides being redundant of insane folly and trivial hyperbole."

BOTANY OF THE PHILIPPINE ISLANDS.—"The Augustinian Fathers of Manila are bringing out a book which is quite a work of art, apart from its research. It was begun by Padre Blanco, after whose death in 1845 it was continued by Padre Llanos, both of the same order. Two editions are now being brought out in numbers, one of which is an *édition de Luxe*. The funds are supplied by the Order, and the expenses have already amounted to several thousand dollars; it is not expected that the sale will prove remunerative, the costs being too heavy. The work is published purely in the interests of botanical science. The sexual system of Linnaeus is followed, and the description of 1,081 plants is given, the illustrations in chromo being most excellent."—*Consular*

Report. [Padre Blanco, the Augustine Father, and his co-religionist Loureiro, the botanist of Cochín China, are credited with establishing more false genera than any two other botanists who have written so little.]

BIRMINGHAM NATURAL HISTORY AND MICROSCOPICAL SOCIETY:—"The Study of Botany, with a Sketch of the History of the Science." The Presidential Address delivered April 5, 1881, by William Southall, F.L.S. Birmingham. Pp. 20.—This, as the title shows, is a presidential address delivered at Birmingham, printed as a neat pamphlet. It is pleasantly conversational, just suited to an audience composed of men fond of science, but each devoted to his own branch and with but a nodding acquaintance with the others. The history of the science, the wide subject of geographical distribution and insect fertilisation, and all the other "points of interest" presented by botany to the notice of the casual visitor are well emphasised, and the address is well adapted to make its hearers or readers wish for a closer acquaintance with its subject.

Medical Gleanings.

A NEW EXHILARANT.—Dr. Luton, a professor in the School of Medicine at Rheims, has reported a very singular effect of a combination of ergot and phosphate of soda. A woman aged 62 was being treated in the infirmary there for a subacute arthritis of the right knee. Ergot of rye was being administered, but fearing a development of the disease it was thought advisable to reinforce the action of the remedy by combining with it phosphate of soda, which, says the professor, is used by them in preference to any other of the more or less vaunted phosphorised preparations. About three-quarters of an hour after taking the new medicine the patient broke into loud shouts of laughter, which were repeated at frequent intervals during nearly half an hour. There was no apparent cause for the laughter, but it seemed to be associated with pleasant thoughts, and to arise from a sort of intoxication. When the excitement had passed away a happy humour was left behind, and decided benefit seemed to have resulted. Similar results followed other doses, and the patient was ultimately cured. Further experiments on other patients gave the same results in the case of women, but it was thought that much larger doses would be required to produce the same effect on men. Dr. Luton gives the following as an average dose for a person moderately excitable:—

Tincture of ergot of rye	Grammes .. 5
Solution of phosphate of soda (10 per cent.) .. .. .	.. 15
Mix with a tablespoonful of sweetened water, and take at one dose, fasting.	

Dr. Luton suggests that the treatment might be found beneficial in cases of nervous hypochondriasis, melancholia, and in the early stages of various depressing diseases.

RAPID BREATHING AS AN ANÆSTHETIC.—At a recent meeting of a medical society in Philadelphia, Dr. Lee described experiments and results on the avoidance of pain by profound and quickly-repeated inspirations. His attention was first called to the subject by a servant he had sent to Dr. Bonwill, a Philadelphia dentist, to have a tooth extracted. The servant told him that when the tooth was being drawn, she had felt no pain. The dentist had asked her to breathe as quickly as she could, and while she did so the tooth was extracted. She merely felt a slight shock accompanying the act of extraction. Soon after, Dr. Lee had occasion to open a perineal abscess in a young man of 25, of delicate constitution and nervous temperament. He caused him to make rapid inspirations during about three-quarters of a minute, and while this was being done, he made a rapid incision, liberating several ounces of pus. The patient continued breathing rapidly for another half-minute or so. The doctor then told him the operation was finished. Nothing had been felt but a slight sensation of pressure on the tumour. In after treatment of the abscess the same method was resorted to successfully. Dr. Bonwill has employed the method five years in dental surgery. He tells his patients they will see all that is done, that they will feel

the contact of the instrument, but they will feel absolutely no pain, if they take care to make these rapid and forced inspirations. About 100 should be made in a minute; it is difficult to exceed this number. During the minute which follows the operation, the patient can only breathe a few times, and it is with difficulty that he can raise hand or foot. These results are so constant, that Dr. Bonwill affirms that for extraction of teeth he has no further need of ether or nitrous oxide. Dr. Bonwill's theory as to the effect of rapid respiration is as follows:—1. In this act there is a diversion of the will demanding such effort that the ordinary pain no longer produces any impression on the brain; the anæsthesia may be due to the excess of carbonic acid, which is separated rapidly from the tissues through these rapid respirations. 2. The cerebral hyperæmia (excess of blood), induced by retardation in the flow of blood from the brain, may also be a factor in the case.

THE Fijian name for a doctor on being translated turns out to be "carpenter of death." Dr. Macgregor, who is practising the healing art in that part of the world, has substituted a new term, signifying "man of life," though how far it has superseded the original is not known.—*C. F. Gordon Cumming, "At Home in Fiji."*

Scientific Notes:

On Chemistry, Pharmacy, Botany, Materia Medica, &c., Original, Selected, and Translated.

EMPLOYMENT OF POTASSIUM PERMANGANATE IN VOLUMETRIC ANALYSIS.*

THE author of this paper, Clemens Zimmermann, referring to the imperfection of all known methods for titrating solutions of salts of iron, especially when containing free hydrochloric acid, suggests the addition to the solution of iron salt to be titrated of some manganese subsulphate, and then titrating with potassium permanganate. The manganese subsulphate solution is prepared by dissolving 100 g. of the pure salt in 500 g. of water. The solution of potassium permanganate must represent 0.000352 g. of oxygen = 0.002464 g. of iron per cubic centimetre.

CAFFEINE.

PROFESSOR E. SCHMIDT, of Halle University, is engaged in researches on caffeine to ascertain the true rational formula of this valuable drug, as well as to settle the question as to the existence of certain salts of this alkaloid. He has sent a preliminary description of some of the results of his researches to the *Berichte der deutschen chemischen Gesellschaft* for April 11, 1881.

Constitution of Caffeine.—The first experiment tried, viz., to separate out a methyl group from the caffeine molecule, owing to the difficulty with which caffeine is attacked by reagents did not succeed.

The next most important experiment for getting an insight into the true composition of caffeine, that of preparing and examining caffeidine, was then carried out. The best way of preparing this base was found, after a number of trials, to be as follows:—One part of caffeine is boiled with 10 parts of crystallised barium hydrate until a strong evolution of ammonia and methylamine occurs (these are the only gases which are formed.) The superfluous barium hydrate is removed by dilute sulphuric acid, and the resulting slightly acid liquid evaporated to a thin syrup, whereupon caffeidine sulphate precipitates in the form of thick needles, which are easily purified by recrystallisation from alcohol. The oily mother liquor from the crude caffeidine sulphate contains the sulphates and formates of methylamine, ammonia, and sarkosine.

Free caffeidine is an oily, very alkaline liquid, easily soluble in water, alcohol, and chloroform, but difficultly soluble in ether.

Besides the sulphate $C_8H_{12}N_4O_4SO_4$, the author has also

*"Bericht: der deutschen chemischen Gesellschaft." April 11, 1881.

formed and ascertained the formula of several other salts of eaffeidine.

Caffeidine combines in the cold with ethyl iodide, forming ethyl caffeidine hydriodate.

From the results obtained, the author has already drawn certain conclusions as to the constitution of eaffeine, but he is still occupied with the subject, and reserves a definite opinion for another paper.

Caffeine Salts.—As regards certain salts of caffeine which are offered in the price-lists of several chemical manufacturers, such as caffeine citrate, &c., the author has found that neither a citrate nor a formate of the base can be formed.

Caffeine acetate forms colourless needle-like crystals, which give up their acetic acid in the air very quickly, even at the ordinary temperature.

Normal butyrate of caffeine forms white short needles, which often congregate in clusters. Caffeine isovalerate forms colourless shining needles.

RESORCIN AS A MEDICINE.*

RESORCIN, discovered by Hlasiwetz and Barth in the year 1864, has since been much used in the manufacture of colours, and its pharmacological properties have been slightly investigated. It remained for Dr. Andeer, in 1877, to investigate its properties and to establish its value as a medicine. Repeated trials of the drug gave very positive results, especially in the cure of diseases of all the various regions of the mucous membrane of man. To establish his priority Dr. Andeer went to Bern, and on August 14, 1877, made a statement before the Swiss Natural History Society, which is shortly summarised as follows on page 148 of the report:—

Dr. Andeer spoke on resorcin, in which he had discovered a new antiseptic, caustic and hemostatic. This was originally a decomposition product of several gum resins, but it is now obtained by certain of the chemical operations of the colour manufacturer, and is a parabioxybenzol. It has been quite neglected hitherto by pharmacologists, but either pure or in concentrated solution it is a good caustic and styptic. In solutions so dilute that it is no longer caustic nor irritating it forms a useful antiseptic, and in this resembles its chemical relations, phenol and salicylic acid. The speaker is making further experiments and will report in detail on some future occasion.

Dr. Andeer repeated his fermentation experiments with resorcin in the Oenological Institute at Carlsruhe. They were carefully supervised by Professor Dr. A. Blankenborn, president of the German Wine-producers Union, and his technical assistant, H. W. Dahlen. Dr. Andeer then published a paper entitled "Preliminary Study on the Introduction of Resorcin into Practical Medicine" (Würzburg, 1880), describing in detail the results he had announced at Bern.

In No. 27, 1880, of the "Centralblatt für Medicinische Wissenschaften," Dr. Andeer gave a *resumé* of his previous publications, and added new observations. He insisted especially on its power of emulsifying animal oils and fats in the presence of free alkali, and on its power of destroying fungoid growths, glancing also at its practical advantages as a preservative.

On the faith of numerous trials Dr. Andeer had at Bern recommended the use of resorcin in various infectious diseases, and his statements have been confirmed. Its febrifugal properties were described in separate publications by Brieger in 1879, and by Lichtheim in 1880. Favourable effects obtained from its use in intermittent fevers are reported by Lichtheim, Jaenicke, and Kahler; and Totenhöfer describes surprising results from its administration for cholera infantum at the Children's Hospital at Breslau.

In cases in which unfavourable symptoms have followed the use of resorcin, the impurity of the drug used must often bear the blame.

An exhaustive examination of "perfectly pure" preparations obtained from the best resorcin makers of Germany, France, and Switzerland showed that the chemical purity of the substance is only a relative term, in spite of the really great improvements in its manufacture. New experiments with the resorcin made by Hofmann & Schöten-sack, of Ludwigshafen am Rhein,† show that it deserves high praise on account of its quality and price. Incidentally it may be mentioned that it corresponds with most of the

indications which Dr. Andeer has made specially prominent. Chemically pure resorcin can only be prepared by sublimation, and has some properties the opposite of those of the impure article; when free from phenol, cresol, and other caustic impurities, it is nearly odourless. Resorcin crystals are large, silvery, and unaffected by light in proportion to their purity. These physical peculiarities soon vanish from apparently pure resorcin, but persist indefinitely in the absolutely pure substance.

Formulae and Doses.—In ordinary cases the dose of resorcin is from 1 to 2 grammes (15 to 30 grains) in 24 hours, to be dissolved in water and administered in convenient portions at intervals sufficient to avoid toxic results. The same dose is enough at the commencement of serious cases, but it may be increased to 3 to 5 grammes. The average maximum dose of 5 grammes in solution or powder should be given only in exceptional cases, and, indeed, only when large doses have been frequently given without producing unfavourable symptoms, or when the proportion of septic material present is comparatively great. Of fluid vehicles, alcohol, glycerine, and orange syrup are the best. Wherever possible it is better to administer it, on account of its disagreeable taste, in wafer paper or gelatine capsules.

The following formulae are recommended by Dr. Andeer. [The gramme is equal to 15·436 grains.]

MIXTURE.						Grammes
Resorcin pur.	..	..	..	..	..	0·5
Aq. destil.	..	..	..	..	..	100·0
Syr. aurantii	..	..	..	..	..	30·0

One tablespoonful every two hours.

EMULSION.						Grammes
Amygdalæ dulc.	..	..	..	..	..	20·0
Fiat emulso cum						
Aquæ destil.	..	..	..	..	..	200·0
Resorcin	..	..	..	..	..	0·5
Syr. aurantii	..	..	..	..	..	30·0

A tablespoonful every two hours.

POWDER.						Grammes
Resorcin pur.	..	..	..	..	..	0·3—0·5

Send three doses for each day in wafer paper or gelatine capsules. One to be taken every two hours.

Formulae for bandages (by Herr Kremer, Oberapotheker, at the Julius Hospital, Würzburg).

One-and-a-half per cent. Resorcin Gauze.						
For each kilo. of gauze use						
Resorcin	..	..	..	..	..	15·0
Alcohol	..	..	..	..	..	450·0
Glycerin pur.	..	..	..	..	..	150·0

1 kilo. = 30 metres.

Three per cent. Wadding.						Kilo.
Cotton wadding	..	..	..	..	..	1
Resorcin	..	..	..	..	..	30·0
Alcohol	..	..	..	..	..	100·0
Glycerine	..	..	..	..	..	70·

Resorcin Spray.						
Resorcin puriss.	..	..	..	..	..	5·0
Aq. destill.	..	..	..	..	..	1000·0

Resorcin is peculiarly useful for disinfecting surgical instruments, as it prevents rust and helps to keep them sharp, two properties which salicylic acid does not possess.

OXIDATION PRODUCTS OF CAFFEINE.

It has been generally accepted that a close relationship exists between caffeine and theobromine and uric acid. The idea is based chiefly on a certain family resemblance in the empirical formulae of the two substances, and has as yet been confirmed by merely a few observations. A thorough examination of the products of decomposition of caffeine and theobromine to settle the point up to the present had never been undertaken, for which reason MM. Maly and Bücheregger have studied the oxidation of these substances, and give in the *Berichte der deutschen chemischen Gesellschaft*, April 11 and 25, 1880, the results of their researches in this direction.

Although caffeine and theobromine are very weak bases,

* From the *Pharmaceutische Zeitung*, April 9, 1881.

† London agents, Lambert & Morrison, Fen Court, London.

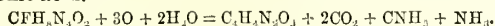
strangely enough, heating them to a temperature of 200° C. in sealed tubes respectively, with such powerful agents as hydrochloric and sulphuric acids, both dilute and concentrated, has no effect on them.

The authors, however, succeeded in effecting the oxidation of these bases by boiling them for some hours with a mixture of potassium bichromate, sulphuric acid, and water, in certain proportions.

Oxidation of Caffeine.—30 g. of caffeine, boiled four to six hours with a mixture of 42.7 g. potassium bichromate, 56.2 g. concentrated sulphuric acid, and about half a litre of water, yields colestrophane (dimethylparabanic acid), ammonia, methylamine, and carbonic acid.



Oxidation of Theobromine.—6.5 g. theobromine, boiled with a mixture of 12 g. potassium bichromate, 14 g. concentrated sulphuric acid, and about $\frac{1}{4}$ litre of water yields monomethylparabanic acid, ammonia, methylamine, and carbonic acid.

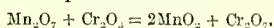


VOLUMETRIC DETERMINATION OF CHROMIUM AND MANGANESE IN THE PRESENCE OF SALTS OF IRON AND ALUMINIUM.

In a preliminary paper sent to the *Berichte der deutschen chemischen Gesellschaft*, April 25, 1881. Ed. Donath suggests the use of potassium permanganate in the volumetric determinations of chromium and manganese, his method being based upon the fact that when a solution to be tested is allowed to flow into a hot and strongly-alkaline solution of potassium permanganate, a number of metals which yield higher oxides when treated with such a solution admit of being determined in the presence of metals, the oxides of which are simply precipitated by the alkalies present, and which are not further oxidised by permanganate.

The author has chiefly studied the reaction with chromium and manganese.

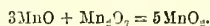
Determination of Chromium.—Upon allowing a neutral solution of a chromium salt to flow into a nearly boiling solution of potassium permanganate which has been made alkaline with sodium carbonate and caustic soda, the chromium is at once converted into chromic acid, while manganese peroxide separates out.



The operation is complete when the supernatant liquid above the brown precipitate (which quickly settles) shows the pure yellow colour peculiar to alkaline solutions of chromium salts.

The presence of even considerable quantities of iron and aluminium salts in the solution of the chromium salt does not prevent the end of the reaction being recognised, because these oxides are precipitated at the high temperature at which the permanganate solution is kept, and settle with the manganese peroxide.

Determination of Manganese.—Upon treating a neutral solution of a manganese salt in the above way a precipitate is immediately formed which contains the manganese of the permanganate as well as that of the manganese salt operated on.



The operation is complete when the supernatant liquid above the brown precipitate has become perfectly colourless. The presence of even considerable quantities of iron and aluminium salts is likewise in this case equally unimportant.

The author intends in a future paper to give exact details of the manipulation.

DILUTE PHOSPHORIC ACID.

THE slimy matters forming in dilute phosphoric acid are due to convolvuloid growths, favoured, no doubt, by the acid itself, for phosphoric acid and its compounds are powerful fertilisers. To prevent their formation the acid must be protected from dust and all germs floating in the atmosphere. To destroy those already existing, simple ebullition, followed by filtration, is likely to be all that is necessary.—*New York Drug Reporter.*

THE SAGE PLANT.

By Dr. Xavier Landerer, Athens.

ONE of the street cries of Athens is "Buy phaskomyliā tu bunu," or the sage plant of the mountain, the apple-bearing sage. The herbalists gather it, and tie it in bundles, which they sell in the market for about 10 leptas. A tea made from this herb is drunk in all chills and gripes, as a matter of course, without consulting the doctor; it is sold, too, in the coffee-houses and confectioners' shops. The plant is *Salvia pomifera*, called "apple-bearing," because the puncture of the insect *Cynips salicæ* causes the growth of galls, known as "galle esculentæ," and like little green apples. These little apples are collected and eaten, after being steeped in water to remove the bitter and styptic constituents. The plant is very common in the mountains of the district of Maina, and the galls are collected and boiled in honey or sugar, the conserve thus made being used like other sweetmeats or mixed with water as a beverage, a teaspoonful to a tumbler.

The sage plant is found in all houses of the poorer sort, and on ships, and on cold days phaskomyliā tea is drunk. The plant is also kept on hand in all the coffee-houses, even as far as Odessa, and its infusion is a favourite beverage. In Odessa a kind of punch is made of it, with rum.

ARTIFICIAL QUININE.

DR. HENRY A. MOTT, JUN., of New York, has for some time been devoting his attention to the preliminary steps of producing an artificial quinine, and, from the result of his investigations thus far, is inclined to think that the starting point is to be sought for among some of the derivatives of coal-tar. He first proposes to determine, if possible, the exact constitutional formula of quinine, of which the present recognised formula is $C_{20}H_{21}N_3O_2$. Then, proceeding in the synthetical method of chemistry, a list of chemical combinations, containing the same four simple elements, and agreeing in their atomic proportions as nearly as possible, is made in the respective order of their affinities, and the proportions of their simple elements to those of quinine carefully compared. For instance, the hydrate of ethyl triphenylene, a derivative of coal-tar, has the formula $C_{20}H_{21}NO$, which is, perhaps, the nearest approximation to that of quinine, having the same proportion of carbon, 3 parts less of hydrogen, and 2 parts less of both hydrogen and oxygen. The plan is this: First taking carbon, and comparing all known substances which contain a like value of this element, the next question is to determine whether by substitution or chemical change the other elements allied with it can be converted into the proper proportions to form a chemical counterpart of the true quinine.—*Oil and Drug News.*

ON EMERY.

By Dr. Xavier Landerer, Athens.

THE best material for cleansing metals and all metallic substances is emery (*Smirgel*, in German), which is next to the diamond in hardness. This useful mineral, called *Smiriglio* to-day, was named *Smyris* in the most ancient times. The mineral is found in the island of Naxos, which I have named *Smirgel Insel*—emery island. Its powder was used even in the earliest Hellenic ages to polish metallic mirrors and for scouring. About 300,000 drachmas are annually paid for this product, which is a monopoly of the Greek Government. Naxos emery is the best of all the sorts found in the Levant.

CANANGA, OR ILANG-ILANG OIL.

PROFESSOR FLÜCKIGER, of Strasburg, has examined the pleasant odiferous oil known under the name of cananga, ilang-ilang oil, and oleum anonæ or anonæ, and in a paper sent to the *Archiv der Pharmacie*, January, 1881, gives the following account of its origin and nature:—The oil is obtained from a tree, *Cananga odorata*, widely distributed throughout the whole of Southern Asia, belonging to the family of the Anonaceæ, and which often attains the height of 60 feet. Ilang-ilang oil is remarkable for belonging to the few natural vegetable oils (the volatile oils of fern and

tolu balsams being the only other known instances of the kind) which owe their odour to a benzoic ether.

Besides benzoic ether and a probable phenol, Ilang-Ilang oil contains an aldehyde or ketone and a small quantity of acetic ether.

PICENE.*

C. GRAEBE and J. Walther, of Geneva, by distilling Californian petroleum have discovered a new hydrocarbon, which they call picene. Thus obtained, picene is a crystalline substance, varying in colour from greenish yellow to intense green. By repeated treatment with alcohol and benzol of high boiling-point, and crystallisation from the latter, picene loses this colour and turns a pale yellow. Picene thus treated melts at about 250° C., boils at 518° to 520° C. (commencement of red heat), and distils over unaltered. The authors consider picene to belong to the benzol group. Its chemical constitution may be represented by the formula $C_{22}H_{14}$, and it is the highest boiling hydrocarbon of known formula. Of the group to which it belongs the boiling-points are:—

	Centigrade
Benzol	80.5°
Naphthaline	217°
Phenanthrene	335°
Chrysene	436°
Picene	520°

THE CULTIVATION OF JALAP IN INDIA.

THE Indian Government has offered to distribute gratuitously jalap tubers to planters willing to cultivate them. The following details of the propagation and growth of jalap in the Ootacamund Gardens have been published by Mr. Jamieson.

Method of Cultivation.—Having no data to guide me regarding the climate and soil which are natural to the jalap plant, I tried it in a variety of situations, and now find that it thrives best in a tolerably rich, dry, and friable loamy soil—in fact, conditions of soil that are indispensable to the production of good potatoes seem equally necessary to the growth of jalap. Good grass land is preferable to open rich forest land; when planted in the latter it has a greater tendency to produce a mass of succulent roots than to form tubers. In opening land for the cultivation of jalap, several acres of well-drained grass land sheltered from the south-west winds, and with a stream of water on or near it, should be selected. If the land be very steep, it should be laid out in terraces 10 feet wide. The terracing should be completed by the end of January, and the ground dug over to the depth of 2 feet and left exposed to the action of the sun until the beginning of April, when it should be drilled, manured, and planted with potatoes (an early ripening variety of kidney would be the best variety to plant). The potatoes should be lifted in June, the land cleared of weeds and forked over, in order that the manure (not taken up by the potatoes) may be incorporated with the soil. The ground is now ready to receive the jalap plants, which should be planted when the tubers are about the size of pigeon eggs in rows (across the terraces), the ridges a few inches higher than the general level of the ground, in order that they may be raised sufficiently high to prevent water from lodging immediately around them. If the weather be dry the plants should be watered occasionally until they have begun to grow; when once established, ordinary garden culture as to weeding, &c., is all that is necessary.

Jalap is an herbaceous plant throwing out twining stems, which should be supported by stakes or wire trellises in the same manner as ordinary garden peas are. The stems die down annually, and the tubers remain dormant for two or three months. In addition to the aerial stems, jalap throws out a mass of underground shoots which emit roots and form tubers at intervals of from 6 to 9 inches. It is from these underground shoots that the greater proportion of our plants have been raised. When cut about 3 inches long and planted, they root freely and gradually enlarge into tubers; by this means the plant can be multiplied to any extent.

In the years 1879–80, 173 lbs. of dry jalap tuber was supplied to the Medical Department, valued at 393 rupees. One acre of land planted as described should at the end of three years produce 5,000 lbs. of green tuber, which will yield, when thoroughly dried, 1,000 lbs. of jalap powder. The cost of cultivation, collection, and drying of the root for the same period will not exceed 300 rupees. I therefore estimate that dried jalap tuber can be produced in Ootacamund at a cost of four annas and ten pies per lb.

No regular season has yet been observed for collecting the tubers or method adopted for preparing the drug for use, but I have no doubt it will be found most advantageous to dig them up when the herbaceous stems have died down and the tubers are dormant, which on the Nilgiris will be during the months of January and February.

The propagation and growth of the jalap in the Ootacamund Gardens has so far been very successful, so much so that I consider it highly desirable that the area should be extended until there are at least 10 acres put under cultivation. From the chemist's analysis and valuation published in G.O., No. 1,027, dated July 1, 1878, there can be no doubt entertained as regards the commercial value of Ootacamund-grown jalap.

Bankruptcies and Liquidations.

C. LANGFORD, Chemist and Druggist, King's Lynn.

THE adjudication in this case was made in October, 1877, the liabilities being returned at 4,596*l.*, and the trustee (Mr. E. Moore) applied to the Court on April 28 for an order closing the bankruptcy. He reported that a dividend of 6*s.* 8½*d.* in the pound had been paid to the creditors. There was no objection, and Mr. Registrar Brougham ordered the bankruptcy to be closed.

JOHN LOMAS, Chemical Manufacturer, 7 Fenchurch Street.

THIS case was brought before Mr. Registrar Hazlitt on April 30, the debtor being also described as of the Wepre Chemical Works, in the county of Flint, and of the Canal-side Chemical Works, in the city of Chester. Mr. Herbert Reed applied under a petition for adjudication filed against the debtor by Mr. Arthur Jackson, of 22 Liverpool Street, for the appointment of a receiver and manager of the estate. The evidence in support of the application showed that the assets consisted of the lease of the debtor's residence at Tulse Hill, together with the furniture and effects, also of property at the Wepre Chemical Works and the Canal-side Chemical Works. The household furniture and effects were valued at from 1,500*l.* to 2,000*l.*, and, if properly realised, ought to produce sufficient to satisfy certain bills of sale thereon, and leave a surplus for the benefit of the creditors. The leases of the various premises were also valuable, and, although believed to be mortgaged, ought to yield a surplus. The property at the chemical works was also of considerable value. On March 31 the debtor presented a petition for liquidation in the Cheshire County Court, and the first meeting thereunder was held on April 26 at the Inns of Court Hotel, Holborn, but the debtor failed to attend, and no statement of his affairs was produced. The receiver (Mr. Whaley) and Mr. Churton, the debtor's solicitor, attended, and informed the meeting that their duties were at an end. It also appeared that on April 9 a letter had been received by Mr. James Cobb, one of the creditors, from the debtor, containing the following passages:—"Carefully reviewing the position of affairs I have come to the conclusion that the best thing I can do in the interest of all concerned is to efface myself. Mr. Whaley will be able, I think, to reconstruct the business in the manner proposed without having me as an encumbrance, and the London creditors will not feel so inclined to wreck the estate and lose all their money as they seem bent upon doing now. So that long before you get this note, which I have sent to London to post, I shall have ceased to be a nuisance, and shall be out of the way of all inimical proceedings." The liabilities were returned under the liquidation petition at 5,735*l.*, of which 2,380*l.* were secured, and the nomination of Mr. Jackson (the petitioning creditor) to the office of receiver and manager of the estate was supported by a substantial body of

* *Berichte der Deutschen Chem. Gesellschaft*, 14ter Jahrgang, February 14, 1881.

creditors. His Honour made the appointment, and also granted an injunction protecting the estate against executions. The following were returned as creditors, secured and unsecured, under the liquidation proceedings:—

	£	s.	d.
Blane, E., Connal's Quay, Chester	20	0	0
Booth, L., Parr's Bank, Chester	17	10	0
Bowen, H., Morriston	12	0	0
Blayn, S. R., 8 Southampton Buildings, W.C. ..	157	0	0
Coventry & Fox, Liverpool	63	0	0
Cobb, J., Finsbury Pavement	75	0	0
Connal's Quay Alkali Company (Limited) ..	22	0	0
Cox, H., 58 Cheapside	60	0	0
Digby & Rabor, Blomfield Street, E.C. ..	300	0	0
Feast, R. W., 21 Finsbury Pavement	700	0	0
Furber & Co., Warwick Court, W.C.	220	0	0
Green, J., 21 Corn Exchange Chambers, E.C. ..	150	0	0
Hill, A. P., Sherborne Lane, E.C.	51	6	8
Horncastle, G. W., 60 Cheapside	100	0	0
Imperial Discount Company	75	0	0
Jackson, A., Liverpool Street, E.C.	690	0	0
Lumbeck, Ang., 21 Mincing Lane	360	0	0
Liberator Building Society	100	0	0
Lockyer, G., 1 Gresham Buildings, E.C. ..	34	0	0
Macle, W., 27 Leadenhall Street	110	0	0
Northfleet Coal and Ballast Company	300	0	0
Neck, J. A., 65A Leadenhall Street, E.C. ..	270	0	0
Parkin, W., Kemble Road, Forest Hill	490	0	0
Parr's Banking Company, Chester	200	0	0
Porter & Abrahams, Finsbury Park	60	0	0
Pyke, A., 31 Craven Street, W.C.	15	0	0
Philpott, E., 72 Royal Mint Street	160	0	0
Ratcliffe & Sons, Hawarden	31	0	0
Tyler, H., 110 Cannon Street, E.C.	270	0	0
Vickers, E., 54 Golden Lane	110	0	0
Watta, T. R., 65 Finsbury Pavement	490	0	0
Walker, Parker & Co., Chester	80	0	0

LUNTLEY & MILNER, Wholesale Druggists, Bread Street Hill.

THIS bankruptcy occurred so long back as December, 1828, and a dividend meeting was held on the 3rd inst. before Mr. Registrar Brougham. The official assignee reported that 2,166l. 13s. 3d. had been received on account of the separate estate of Mr. Luntley, but, in the absence of any resolution by his separate creditors, the amount was transferred to the credit of the joint estate, and will be distributed accordingly.

H. T. MAPLESON, Chemist and Druggist, &c., Devonshire Street, Portland Place.

THE debtor, carrying on the business of a chemist and druggist in the name of "J. Thomas," has presented a petition for liquidation, and his affairs were brought before Mr. Registrar Murray on April 27. Mr. A. S. de Fivas applied for the appointment of Mr. G. T. D. Beecher, of 5 Endsleigh Street, Euston Square, as receiver of the estate, and for an injunction restraining further proceedings in numerous actions. The liabilities were returned at about 2,500l., and the assets, of which the value was not estimated, consisted of household effects, fixtures and fittings, stock, and book debts. The debtor was being sued by the following creditors:—

	£	s.	d.
Selim, Dean & Co., Coventry Street, for the recovery of	107	0	6
McLure & Drew	44	10	0
Holker, Sir John, Knt.	202	4	0
Bate, H. T., North Row	123	2	6
Fisher, Susan, Tufnell Park Road	27	17	6
Daines, E., Holborn	86	0	0
Amor, Barnes, Evans' Hotel	13	3	0
Maple & Co., Tottenham Court Road	10	0	0
Rowe, J., 65 High Street, W.C.	16	15	4
Tack, C. & S., Stanley Gardens, Hampstead ..	10	19	8

And by two other creditors for small amounts.

His Honour made the desired appointment, and granted an injunction until after the statutory meeting.

AUGUSTE LE MAOUT, Chemist, 15 Wardour Street.

THE debtor, who carried on business in partnership with Charles Picault, filed his petition in March, 1880, and it was resolved that his affairs should be liquidated by arrangement with Mr. Edward Harvey, accountant, Weaver's Hall, as trustee. The debts were stated in the accounts at 2,203l. 15s. 4d., and assets 1,407l. 17s. 4d. Mr. F. C. Willis applied to the Court on April 29 for the approval of a scheme of arrangement which had been assented to in pursuance of section 28. By the resolutions the creditors

agreed to accept a composition of 8s. in the pound in satisfaction of their debts, together with the costs and charges (which were estimated at 240l.), the composition and costs to be payable by quarterly instalments of 50l. each. Mr. Willis said that the reason for the offer not being larger was that the assets included a certain interest in a mine alleged to be of the value of 500l., but which, upon investigation, proved to be worth nothing, owing to claims for royalties on the part of the freeholder, and there were also other assets from which nothing could be realised. Mr. Murray, a large creditor, appeared to oppose, and said he did not expect to get anything out of the estate. The trustee said that the arrangement was really an advantageous one, and the first instalment of 50l. had been paid into his hands. Mr. Registrar Hazlitt said that, as there appeared to be practically no assets, he thought that an arrangement by which the creditors were to be paid 8s. in the pound was a beneficial one. He therefore confirmed the resolutions.

W. W. YOUNG, Chemist, 225 Jamaica Road, Bermondsey.

THE adjudication in this case was made on April 4, upon the petition of Mr. T. W. Boord, of All Hallows Lane, and the first meeting in the bankruptcy took place on April 27, before Mr. Registrar Hazlitt. The statutory accounts were not filed, but the following creditors proved against the estate:—

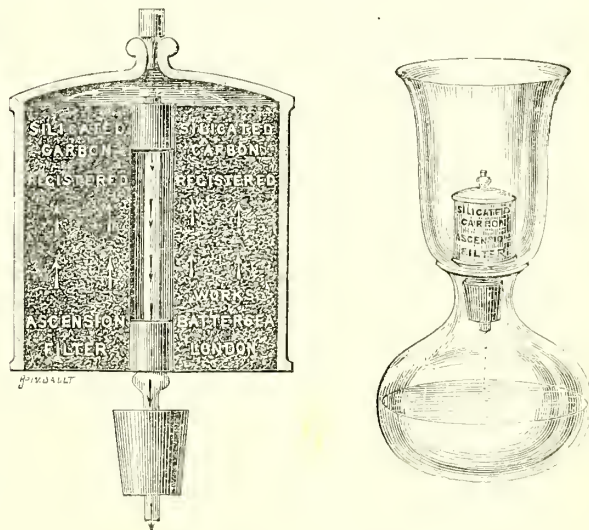
	£	s.	d.
Boverbank, E. & Son, Sun Street	33	16	0
Boord & Son, All Hallows Lane	66	1	0
Flood, W. W., Blackman Street, S.E.	44	16	10
Hills & Underwood, Eastcheap	103	11	6
Maw, Son & Thompson, Abbersgate Street ..	11	10	7
Rees, S., chemist, Rotherhithe	8	15	6

The proceedings resulted in the appointment of Mr. Joseph Andrews, accountant, Ironmonger Lane, as trustee, together with a committee of inspection, the bankrupt's public examination being fixed for May 24.



ASCENSION FILTERS.

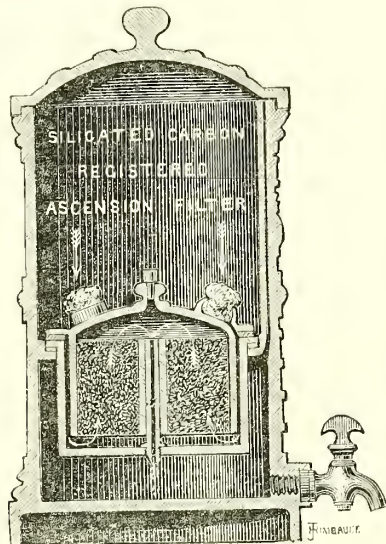
THE Silicated Carbon Filter Company, of Battersea, have produced an ascension filter in which the water passes upwards through the silicated carbon, and it is so arranged



that the deposits of mud or impurities suspended in the water are left on the sides of the vessel and not on the filtering medium itself, which is thus saved from clogging.

We subjoin drawings of table-filter with sectional view of the filtering-block. The arrows show the direction taken by the water. To clean the carbon the small indiarubber peg at the top is removed, and the block blown strongly through. By an ingenious arrangement this plug can be placed in the socket at bottom, and an indiarubber tube being attached to the ripple the block is converted into an ordinary earthenware pocket-filter.

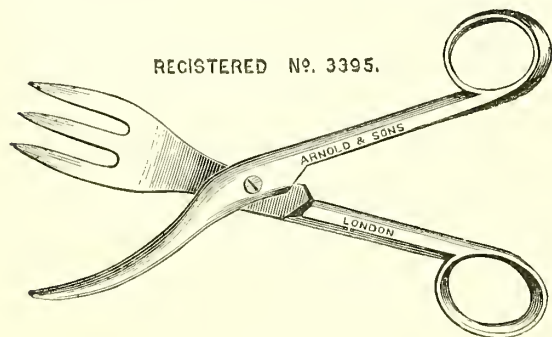
The "Domestic" filter is on the same principle, but in these the water is first strained through sponges or asbestos. The parts are placed together in a simple manner, and, as in the table-filters, the inner part can be taken out, and with the addition of an indiarubber tube used as a travelling-filter. This is an advantage that will doubtless strongly recommend them to families visiting the seaside.



The designs are protected by registration, and as the prices are not more than the ordinary block-filters we may predict a large demand for them in the approaching season.

COMBINED KNIFE AND FORK.

THE engraving shows an instrument manufactured by Messrs. Arnold & Sons, of Smithfield, on the suggestion of Dr. J. C. Hogan, M.B., designed to obviate the inconvenience experienced by persons who have lost the use of one hand or



arm. It is made either for the right or left hand. With its aid meat may be cut as by a pair of scissors, and carried to the mouth by the fork, which forms part of the arrangement. It is made of nickel plated.

LABEL-GUMMER.

AN apparatus for gumming large numbers of labels with great speed has been invented by Mr. G. J. Hutehings, and a drawing of it is shown in his advertisement. The machine is about 9 inches long, 6 inches wide, and 6 inches high. On the top, which is of brass, there is an opening in which the labels are placed, a spring below keeping the packet up, and a pressure-bar above keeping it down to the proper level. The label-box may be of any desired shape to suit the particular labels. By two fingers the labels are drawn from the packet and pass over a drum which revolves in a trough of gum or paste. Beyond the drum they pass over a strainer, which removes superfluous fluid, and from thence they go on the surface of the bottle. It is evident that with this machine labelling can be accomplished as fast as the labels can be drawn from the pack. The inventor, with, perhaps, an excusable faith in his machine and in the virtues of boyhood, estimates that "a boy can gum and label 100 dozen an hour without defacing a single label."

GUTHRIE'S AROMATIC CHOCOLATE WORM-CAKES.

MR. A. D. GUTHRIE, of Bonnington, Edinburgh, has prepared worm-cakes in very neat form to sell at 1d. each. Their flavour is accurately described in the title, but they are made extra captivating to the youthful palate by one side of the tablet being sprinkled with what the past generation, at least, were familiar with under the name of "hundreds and thousands." Each tablet is wrapped separately.

LAXATIVE FRUIT CONFECTION.

WE have received from Messrs. Hawker Brothers, of Lewisham, a sample of a new lozenge called "laxative fruit confection." Each lozenge is wrapped in paper and tinfoil, like the popular French medicine Tamar Indion, but the flavour of these is somewhat different, and no medicinal taste whatever is noticeable. At the same time, they have a decided medicinal action. They are sold in boxes, each containing 16 lozenges, to retail at 1s. 6d.

CAMPHOR IN BLOCKS.

MESSRS. MAY & BAKER, of Battersea, have lately acquired a patent for a process of refining camphor into flat blocks or slices, similar to samples sent over here from America. We are informed that they will shortly be able to supply the camphor in this form to the trade. We have before us samples of camphor in this shape, both of English and American origin. We think every retail chemist will appreciate the convenience of receiving camphor in slices of this kind. The block is about $\frac{3}{4}$ inch in thickness, and the English article is very firm and transparent.

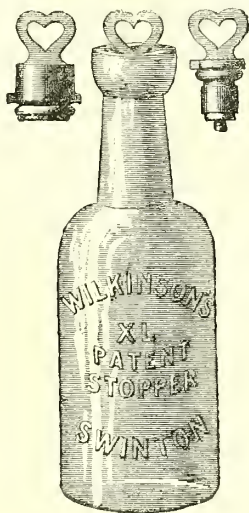
CHLORICALCIUM.

MR. A. B. CORTIS, F.C.S., pharmaceutical chemist, of Worthing, is now introducing chloricalcium to the trade. It is really calcium chloride, and its use as a disinfectant was patented and made known by E. C. C. Stanford, as long ago as 1872. Mr. Stanford read a paper on it at the Pharmaceutical Conference held at Brighton in August of that year. He showed that it possessed really considerable anti-septic and deodorising properties, preventing the growth of fungus and the appearance of disagreeable odours for a much

longer period than chloralum, or either of the chlorides of the alkalies. It was inferior to chloride of iron in these respects, but its cheapness, and the absence of poisonous and staining properties, compensated for this deficiency. It is put up in two forms; in solid lumps, useful for urinals, drying shop-windows, show-oases, or the drying-cases mentioned not long ago in this journal; and in solution, which is useful for all ordinary disinfecting work. The lumps of fused chloride are by no means so deliquescent as the textbooks would lead us to imagine.

NEW PATENT STOPPER.

MESSRS. DAVENPORT & Co. are introducing an ingenious bottle and stopper called "Wilkinson's XL Patent Externally-stoppered Bottle." It is specially adapted for stout, ginger-beer, and the like. The construction will be understood from the annexed engraving. Inside the neck of the bottle are a slot and flange. The stopper is of metal. The projection noticed at the base of the stopper in the figure slips in the



slot, and a half-turn secures it. At the base of the stopper is a rubber washer, which fits close against the flange, effectually closing the bottle. Bottles are supplied in green or dark glass; the stoppers and washers can be obtained separately to replace loss, and boxes or jars will be made on the same principle.

WILLS'S MATERIA MEDICA CABINET.

MR. WILLS, of Wills & Wootton, has sent for our inspection one of his materia medica cabinets. A hundred and fifty specimens of vegetable drugs, put up in numbered boxes, and the whole contained in a varnished box, he offers to students for 5s. A table inside the cover, giving the names of the drugs contained in the boxes with the corresponding number, enables the student to check his identifications. Nearly all the specimens are good and characteristic, with the exception of the roots, such as rhubarb and scammony. These have been cut too roughly to leave visible very much that is characteristic. Still the cabinet is decidedly good and cheap.

PHARMACY IN ALGIERS.—By a decree dated June 5, 1880, was established in Algiers a preparatory school of medicine and pharmacy, with chairs of anatomy, physiology, pathology, clinical medicine, obstetrics, toxicology, natural history, pharmacy and materia medica, hygiene and therapeutics.

Trade Notes.

IN our notice of Messrs. R. M. Mills & Co.'s "Tissue Phosphate Tonic Water" we stated last month that their works were at Bournemouth. We should have said Bourne.

LARGE buyers of limejuice cordial will find that article quoted at a low price for quantity in the advertisement of Messrs. Wm. Denny & Co., of Dublin.

MR. JOHN T. SAVILLE has sold his sole right in Saville's capillary generator to Mr. John Selley, chemist, 142 Earl's Court Road, South Kensington.

THE business of Mr. J. Hindle, Whetstone, Middlesex, was offered for public competition by Mr. Brett, of Leicester, on April 21, and purchased by Mr. J. W. Barnes, late manager for Messrs. Butler & Crispe, of London.

MR. ROBERT GIBSON, of Manchester, now manufactures voice jujubes, delectables, and glycerines of superior quality, and supplies them in attractive decorated tins with glass covers, the tins not charged for. The tins are well adapted for inducing sales from the counter.

HARROP'S LINEN GLAZE is put up by W. H. Harrop, Crewe, in penny, threepenny, and sixpenny packets. The numerous inquiries in our Correspondence columns for the formula of such an article show that a demand for this article is springing up among the public.

LYDD'S "UNIVERSAL FOOD."—This is patent, cooked, malted, and farinaceous. Eulogium is exhausted when it is added that it requires neither boiling nor straining, is equally good for men and babes, and that Dr. Attfield has given it a testimonial. It is put up in tins at from 1s. to 10s. "Sold by chemists and grocers everywhere."

MESSRS. JULIUS HÜLSEN & Co., of Newcastle-on-Tyne, have sent us some fine samples of nitrate of barium, chloride of barium, crystallised and calcined, and of *blanc fixe*, barium sulphate. They have the raw material on the spot, they make their own acids, have unrivalled facilities for water carriage, and claim generally that they can defy all competition in this particular line.

ARE WE to understand that the pendulum has swung to its limit in the way of temperance drinks. This is suggested by a sample of Gough's Good Templar champagne which has reached us. This is not strictly a temperance drink, but it is a pure champagne of very light alcoholic strength. For a cheap and wholesome champagne it cannot well be equalled. The agents are Messrs. Charles Kinloch & Co., of Baekehurch Lane, Commercial Road.

As a further indication of the reaction, we may mention that we have received from the Saint Raphael Wine Company a sample of their product as used in the Paris hospitals. It is a natural sweet tannic wine, containing about 15 per cent. of alcohol, and is recommended by several eminent French physicians as a tonic in anæmia, and especially, it appears, in gout! Mr. Gallais, of Margaret Street, is the London agent for the company.

BOND'S FLY-PAPERS, BEETLE, SANITARY, DISINFECTING AND DEODORISING, PERFUME, AND MOTH-PREVENTING PAPERS are put up in penny envelopes, containing one or two sheets. This is a decided improvement on the way in which such articles are generally presented to customers. The moth-paper is certainly as efficacious as the best German articles. The perfume-paper is nicely scented with benzoin. We have not been able to experiment with the others. They are put on the market by the proprietor of Bond's Crystal Palace marking ink.

GULLIVER'S Vale of Aylesbury mineral waters, we are informed, have obtained two first-class and two second-class awards, and an honourable mention, at the Melbourne Exhibition.

* *

MESSRS. W. G. CARR & SON have sent us a sample of their cod-liver oil which took the only medal offered for the class at the Fisheries Exhibition lately held at Norwich. It has a very fine flavour, and in fact is almost "nutty." They have also sent us a sample of salad dressing in which this takes the place of olive oil. It is certainly remarkable in its way, but it is appalling to think of the amount of green stuff a phthisical patient must eat to ingest his proper quota of oil in this form.

* *

MESSRS. LYNCH & Co. have introduced an enema, which they call the "Household Enema," and which seems disposed to make itself generally useful. It is packed in a lined mahogany box, and consists of an enema of vulcanised green rubber of the principle known as Higginson's, and in the box are fitted an adult rectum pipe, a child's rectum pipe, a vagina pipe, and pieces suitable for syringing the eyes, ears, and nose. The parts fit together perfectly, and bear marks of excellent workmanship. They are packed very compactly, and the whole is supplied at 7s. 6d. wholesale.

Personalities.

THE honorary degree of LL.D. has been conferred by the University of Edinburgh on Prof. A. W. Williamson, of University College, London.

A QUOTATION from Mr. Ince's article in our last, describing the chemical character of water, is inserted in the *Mineral Water Trade Recorder*, but the printer has transformed the author's name to Joseph Juel.



[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, 4 South Street, Finsbury, London, and at Paris and Brussels.]

Applications for Letters Patent :—

Acetate of Soda.—No. 1424.—W. G. Forster, of Streatham Common, London. Improvements in the manufacture of acetate of soda and other acetates. Dated March 31, 1881.

Bases for Artificial Teeth.—No. 1728.—A. M. Clark.—A communication from J. Duchesne, of Marseilles, France. Improvements in apparatus for the manufacture of bases for artificial teeth. Dated April 20, 1881.

Beverages.—No. 1675.—A. W. Elliot. Partly a communication from C. Van Outrive, of Roulers, Belgium. The manufacture of a new product suitable for making beverages. Dated April 16, 1881.

Bottle-racks.—No. 1511.—J. Heaps, of Manchester. Improvements in receptacles or racks for packing, storing, transporting, and exhibiting bottles containing aerated or other liquids. Dated April 6, 1881.

Bottles.—No. 1640.—H. J. Haddan. A communication from B. Ainé, of Cognac, France. Improvements in apparatus for the manufacture of bottles. Dated April 14, 1881.

Capsules.—No. 1729.—L. Gros, of Albany Street, London. Improvements in capsules for bottles, jars, and other vessels of capacity, and in the manufacture of the same. Dated April 21, 1881.

Carbonates of Soda, &c.—No. 1721.—A. M. Clark.—A communication from J. B. M. P. Closson, of Paris. Improvements in the manufacture of carbonates of soda and potash. Dated April 20, 1881.

Colouring Matters.—No. 1725.—J. Young, of Kelly, Renfrewshire, North Britain. Improvements in the preparation of colouring agents or materials. Dated April 20, 1881.

Colouring Matters.—No. 1767.—F. A. Zimmermann.—A communication from F. Holtz, of Berlin. Improvements in the manufacture of dyes or colouring matters. Dated April 23, 1881.

Colouring Matters.—No. 1487.—E. G. P. Thomas, of Brentford. Improvements in the manufacture of colouring matters. Dated April 5, 1881.

Colouring Matters.—No. 1428.—C. D. Abel.—A communication from H. Koehlin, of Loerrach, Baden, and O. Witt, of Mulhouse, Alsace, both in Germany. Improvements in the production of colouring matters. Dated March 31, 1881.

Deodorising Water-closets, &c.—No. 1432.—W. Morgans, of Bristol. Improvements in deodorising water-closets, bed-pans, and other like receptacles or utensils, and in the apparatus or means employed therein, parts of which improvements are also applicable to the removal of effluvia or obnoxious gases from other sources, and to the reduction of temperature. Dated April 1, 1881.

Disinfectant, &c.—No. 1434.—H. Barron, of West End Lane, London. Improvements in disinfectant and deodorising apparatus applicable to water-closets. Dated April 1, 1881.

Electric or Galvanic Batteries.—No. 1676.—J. H. Johnson.—A communication from C. A. Faure, of Paris. Improvements in secondary electric or galvanic batteries. Dated April 16, 1881.

Flavouring and Colouring Beer.—No. 1468.—A. B. Worthington, of Beccles, Suffolk. An improved material for flavouring and colouring beer. Dated April 4, 1881.

Magnesia, &c.—No. 1768.—H. Wedekind.—A communication from H. Haenschild, of Berlin. Improvements in the production of magnesia and sulphate of calcium. Dated April 23, 1881.

Magnesian Products.—No. 1720.—A. M. Clark.—A communication from J. B. M. P. Closson, of Paris. Improvements in the manufacture of products rich in magnesia and free from caustic lime. Dated April 20, 1881.

Medicinal Compound.—No. 1574.—E. Harris, of Holloway Road, London. An improved medicinal compound. Dated April 11, 1881.

Nitrobenzole.—No. 1639.—J. Decker, of Manchester. An improved process for the production of nitrobenzole. Dated April 14, 1881.

Obtaining Ammonia.—No. 1716.—J. Storer, of Glasgow. Improvements in obtaining ammonia. Dated April 20, 1881.

Paste for Dressing Wounds.—No. 1760.—A. Koch, of Neuffen, Württemberg, Germany. Improved paste for dressing wounds. Dated April 23, 1881.

Preserving Food.—No. 1586.—G. M. Allender, of St. Petersburg Place, Bayswater, London. Improvements in the preservation of alimentary substances, both solid and fluid. Dated April 12, 1881.

Preserving Food.—No. 1464.—H. A. Bonneville.—A communication from A. Robert, of Paris. A new or improved apparatus for preserving animal and vegetable substances and liquids. Dated April 4, 1881.

Refining Camphor.—No. 1704.—G. Atkinson, of Aldersgate Street, London. Improvements in refining camphor, and in apparatus therefor. Dated April 19, 1881.

Regenerating and Recovering Hydrochloric Acid.—No. 1448.—W. R. Lake; a communication from the Société Coignet, père et fils, et Compagnie, of Paris. An improved process for the regeneration and recovery of hydrochloric acid which has been used in the treatment of bones. Dated April 1, 1881.

Soda Solutions.—No. 1527.—J. Inmay; a communication from J. Buffet, of Paris. Improvements in the method of effecting concentration and crystallisation of soda solutions, and apparatus for that purpose. Dated April 7, 1881.

Spectacles.—No. 1512.—W. R. Lake; a communication from R. A. Carter, of New York, United States. Improvements in the manufacture of spectacles or eye glasses. Dated April 6, 1881.

Stopping Bottles.—No. 1702.—C. G. Elers, of Daere Street, Westminster, London, and T. Rowan, of Ryde, Isle of Wight. Improvements in stoppering bottles and like articles. Dated April 19, 1881.

Sulphate of Alumina.—No. 1731.—A. A. Croll, of Coleman Street, London. Improvements in the manufacture of sulphate of alumina. Dated April 21, 1881.

Letters Patent have been issued for the following :—

Abdominal Belts.—No. 4383.—P. W. G. Nunn, of Bournemouth, Hampshire. Improvements in abdominal belts for the prevention or alleviation of sea-sickness. Dated October 27, 1880.

Beverage.—No. 614.—A. J. M. Bolanachi, of Bueclenagh Road, West Dulwich. Improvements in the preparation of a certain fruit and seeds, in order that their infusion may be used as a beverage, and to render the fruit suitable for use in other ways as an article of food, and in apparatus for that purpose, part of which improvements are applicable to the treatment of coffee, chocolate, cocoa, or their substitutes. Dated February 12, 1881.

Bicarbonate of Soda.—No. 5394.—W. Weldon.—A communication from S. W. Underhill, of Croton Landing, New York, United States. Improvements in apparatus for the manufacture of bicarbonate of soda. Dated December 23, 1880.

- Calcining Carbonates of Soda, &c.**—No. 4468.—W. Black, of South Shields, and T. Larkin, of East Jarrow. Improvements in furnaces for calcining carbonates of soda, alkali, and other like substances, and in apparatus connected therewith. Dated November 2, 1880.
- Chlorate of Potash.**—No. 423.—W. Weldon.—A communication from A. R. Pechiney, of Salindres, France. Improvements in the manufacture of chlorate of potash. Dated February 1, 1881.
- Chlorate of Soda.**—Nos. 424 and 425.—W. Weldon.—A communication from A. R. Pechiney, of Salindres, France. Improvements in the manufacture of chlorate of soda, partly applicable also to the manufacture of chlorate of potash. Dated February 1, 1881.
- Converting Nitrogenous Substances.**—No. 4303.—T. Morgan.—A communication from J. Mayaud, of Paris. A process for converting nitrogenous organic substances into soluble principles. Dated October 21, 1880.
- Extracting Juices, &c.**—No. 5389.—A. M. Clark.—A communication from B. Odio, of New York, and F. Perozo, of Brooklyn, United States. An improved process and apparatus for extracting juices and saccharine matters from sugar-cane and other vegetable substances. Dated December 22, 1880.
- Filter-presses.**—No. 901.—H. E. Newton.—A communication from A. L. G. Debné, of Halle-on-the-Saal, Germany. Improvements in filter-presses. Dated March 2, 1881.
- Indigo.**—No. 466.—J. H. Johnson.—A communication from A. Baeyer, of Munich, Bavaria. Improvements in the preparation of artificial indigo, and in the application of the same to dyeing, printing, and marking textile fabrics and materials. Dated February 3, 1881.
- Phosphoric Acid.**—No. 4259.—A. Gutensohn, of Southampton Buildings, London. An improved process for utilising phosphate of alumina to obtain phosphoric acid. Dated October 19, 1880.
- Preparing Oxychinoline.**—No. 678.—Z. H. Skraup, of Vienna. Improvements in preparing oxychinoline. Dated February 16, 1881.
- Preserving Food.**—No. 140.—T. F. Wilkins, of Lavender Road, Clapham Junction, London. Improvements in the preservation of alimentary substances, and in the use of compositions therefor. Dated January 12, 1881.
- Separating Iron.**—No. 4548.—D. MacEachran, of Greenock, North Britain. Improvements in separating iron from animal charcoal, sugar, and saccharine liquids, and in the means or apparatus employed therefor. Dated November 6, 1880.
- Spectacles.**—No. 4148.—J. Betjemann, of Pentonville Road, London. Improvements in means for holding or supporting spectacles. Dated October 12, 1880.
- Starch, &c.**—No. 386.—W. R. Lake.—A communication from T. A. and W. T. Jebb, both of Buffalo, New York, United States. An improved process and apparatus for the manufacture of starch and glucose or grape sugar. Dated January 28, 1881.
- Stopping Bottles.**—No. 4190.—S. Wilkes, of Selly Oak, near Birmingham. Improvements in the mode of stopping bottles, and in the appliances connected therewith. Dated October 15, 1880.
- Syruping and Bottling Aerated Liquors.**—No. 4721.—W. A. Ross and P. Lockhart, both of Belfast, Ireland. Improvements in apparatus for syruping and bottling aerated liquors. Dated November 16, 1880.
- Treating Chlorate of Lime, &c.**—No. 422.—W. Weldon.—A communication from A. R. Pechiney, of Salindres, France. Improvements in treating mixed solutions of chlorate of lime and chloride of calcium. Dated February 1, 1881.

The following specifications have been published:—

Postage 1*d.* each extra.

2626. W. Staniforth. Stands for bottles, &c. 6*d.*
2981. D. J. Fleetwood. Apparatus for the supply of aerated water. 6*d.*
3487. J. Rettie. Stoppers for bottles containing aerated liquids. 2*d.*
3502. F. Cooper. Safety-cases for pipes, &c. 6*d.*
3529. H. E. Newton. Nursing and feeding bottles. 2*d.*
3539. J. Storer. Treating liquids or matters dissolved or suspended in liquids, &c. 8*d.*
3540. J. Imray. Manufacture of sulphuric acid. 2*d.*
3550. F. A. Bonnefin. Preparing, evaporating, and concentrating saccharine juices, &c. 4*d.*
3552. J. Betjemann. Apparatus to be applied to bottles to prevent withdrawal of their contents. 2*d.*
3554. E. Parry and T. H. Cobley. Manufacture of earthy silicates. 2*d.*
3568. T. Walker. Closing bottles containing aerated liquids. 6*d.*
3584. C. Hessel. Manufacture of hydrogen, &c. 4*d.*
3588. P. Jensen. Settings for artificial teeth. 6*d.*
3593. J. E. Newby and J. F. Ramsay. Manufacture of yeast. 4*d.*
3641. L. A. Groth. Decomposition of salts of ammonia. 6*d.*
3642. F. T. Marrian, and T. W. Bocock. Stands or frames for bottles, decanters, &c. 2*d.*
3664. R. Werdermann. Treating serous matter to obtain nitrogenous products and albumen, &c. 4*d.*
3669. A. V. Langstedt. Lids for jars, bottles, &c. 2*d.*

3670. A. M. Clark. Regenerating the fluids of galvanic batteries, &c. 4*d.*
3672. J. H. De Bussy. Surgical bandages, 6*d.*
3689. W. Brierley. Iced air inhalators, 4*d.*
3709. J. Neal. Bottles and stoppers, 6*d.*
3731. B. Biggs. Separation of acetic acid from crude pyroligneous acid and spirit. 2*d.*
3745. P. M. Justice. Purifying and whitening oils and fats. 4*d.*

Obituary.

DOD.—On April 11 at his private residence, Mr. Thomas Dod, of the well-known firm of Clay, Dod & Case, 52 St. Anne Street, Liverpool. Aged 56 years.

MEIKLE.—On February 1, Mr. William Douglas Meikle, chemist and druggist, High Street, Great Berkhamstead. Aged 38 years.

RUMSEY. On March 8, at Witham, Mr. Frederick Samuel Rumsey, chemist and druggist, Old Bethnal Green. Aged 35 years.

FIELD.—On April 2, Mr. Sam Field, chemist and druggist, Scholes, Wigan. Aged 38 years.

SOUTHEE.—On April 5, Mr. William Jennings Southee, chemist and druggist, Mare Street, Hackney. Aged 30 years.

APPLEYARD.—On April 6, Mr. Frederick Appleyard, chemist and druggist, Denholme, Yorkshire. Aged 73 years.

CROSS.—On March 19, very suddenly, Mr. William Gowen Cross, pharmaceutical chemist, Mardol, Shrewsbury. Aged 61 years.

Mr. Cross was a justice of the peace for Shrewsbury, and twice filled the civic chair. At the time of his death he was presiding alderman of the police committee.

LAFFERE.—On April 12, Mr. Edmund Henry Laffere, chemist and druggist, Market Place, Hatherleigh. Aged 45 years.

HENLY.—On April 17, Mr. John Creed Henly, pharmaceutical chemist, Penge Road, South Norwood. Aged 82 years.

SALICYLIC ACID.

THE extensive use of salicylic acid at the present time for the preservation of articles of food and drink, notably drink, has given rise to a great deal of controversy amongst those who make the study of hygiene a speciality. At a recent meeting of the *Société française d'Hygiène* this subject was discussed at great length. According to M. Mary-Durand, the addition of salicylic acid to liquors ought to be regarded by law as a punishable fraud, unless such addition be clearly indicated by a label or similar means. At the same time, he contended that the authorities might still continue to ignore this falsification if its harmlessness were perfectly established, but such, he said, was not the case. It appears to result, on the contrary, from the observations of several medical men, that salicylic acid exercises an injurious influence upon the human organism. In short, M. Mary-Durand considers that salicylic acid is a valuable antifermentescible agent for certain industries, and a medicament which may render important services, but its employment ought to be absolutely restricted to these two uses. M. Schlumberger expressed the opinion that authentic instances could not be cited of any harm done to people who had been drinking for some time past beer and wine to which salicylic acid had been added. He also pointed out that the amount added from eight to ten grammes per hectolitre of wine, which was sufficient to ensure preservation, was very small. According to M. Fichet, this small quantity of acid does not remain in the liquid with its active properties; the acid acts upon the ferments, and forms a neutral and inert substance, which is incapable of acting upon the organism. This substance sinks to the bottom, and is removed with the lees by fining and racking. M. Fichet said this acid, instead of being proscribed, ought to be recommended by the Hygienic Society. The result of the discussion was that a commission was appointed to investigate, from a hygienic point of view, the action of salicylic acid upon food and drink.

Exchange Column.

ADVERTISERS IN THE EXCHANGE COLUMN will find it very much to their advantage to draw up their announcements so that they will fall naturally into one of the divisions into which the advertisements are grouped.

We would also suggest that those who avail themselves of the Disposal section will be wise to define, with some approach to detail, what they have to sell. Probable purchasers are too busy, in most cases, to enter into preliminary correspondence, which is likely enough to have no ultimate result.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The Publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

Deposit of Money.—In order to ensure safety we offer the following system:—The purchaser of anything advertised in the Exchange Column may remit the amount to us. We shall acknowledge receipt to both parties by post-cards, and shall only pay it away on the advice of the remitter. Whether returned to him or paid to the seller, we shall charge a commission of 2½ per cent. on any money thus passing through our hands, and not less than 6d. on any single transaction. This arrangement should entirely prevent any cause of complaint or dissatisfaction arising out of this section of THE CHEMIST AND DRUGGIST.

FOR DISPOSAL.

Dental and Surgical.

Set of tooth-foreps, &c., in morocco case, 7s. 6d. Tully, Tunbridge Wells.
Baker's 16s. mixing machine, with extra sieves, 7s. 6d. Tully, Tunbridge Wells.
Full-sized water-bed, 72 inches by 36 inches, weight, 23½ lbs., quite sound and good; what offers? 181/51.

Drugs and Chemicals.

4 lbs. potass. iodid. What offers? 30/15.
4 oz. ol. lavand. mitcham; what offers? Evans, Chemist, Millom.
Cwt. cask pnv. acid tart., English, 1s. 9d. lb.; 56-lb. tin glycerine, chemically pure, 1/260, 1s. per lb.; 4 lbs. potass. iodid., 9s. lb.; all carriage paid. 30/12.

Proprietary Articles.

About 30 small lots. List on application. Humphries, Garston, Liverpool.
Quantity of patents, soiled and clean, half price. List on application. Marson & Son, Stafford.

Apparatus.

Cartner's patent pill-coater, 14s. Smith, Chemist, Ilfracombe.
A 10 gallon portable still, with pewter worm and galvanised-iron tub. 25/19.
Chemical balance and case, cost about 37., will take 30s.; also a good microscope, cost 207., 147. Chemist, 2 Queen's Terrace, St. John's Wood.

A large glass electrical cylinder, 14 inches long, 12 inches diameter, cheap; also several new brass enemas. Cotterell, Chemist, Dover.
Electroplating apparatus, complete, recipes, instruction, 15s.; medical galvanic apparatus, four powers, battery, handles, 12s. 6d. Pickering, Chemist, Leicester.

What offers for Zuccato's patent papyrograph? Cost 21., no reasonable offer refused, will print as good as when first used; will take drugs or salable patents in exchange. Snatch, Chemist, Newark-on-Trent.

Educational.

To Preliminary Students.—For disposal, a few exceptionally good works, very cheap. 33/6. Southall's materia medica cabinet, good condition, 15s. Address, A. A. E., 1A Chatterton Road, Highbury Vale.

Evans' cabinet of materia medica for Major, 185 specimens, nearly new. Humphries, Garston, Liverpool.

Set of illegible autograph prescriptions (original) 2s. 6d.; 39 prescriptions (catch and difficult) given to dispense at Minor during past 12 months, 2s.; 50 questions asked of my successful students at last Minor, 1s. 1d.; lot of cheap, almost new, books, stamp for list. Saunders, Medical Tutor, 79 Gaisford Street, N.W.

Literature.

The Chemist and Druggist for 1879, 1880, price 10s. or separately, 5s. per year. Butler, Chemist, Tunbridge Wells.

"Dogs," new edition, Henry Webb, 18 woodcuts, 60 photographs, 6s. 6d., free 4s. 10d. Smart, Littlehampton.

Muter's "Chemistry," 5s.; Turner's "Chemistry" (23s.), price 7s. 6d.; Thomson's "Organic Chemistry (21s.), price 6s. Tully, Tunbridge Wells.

Pharmaceutical Journals, 1879 and 1880; what offers? Smith's Guide to the First and Second Examinations, 3s. 6d. M. Smith, 70 Mill Street, Aberdare.

Rhind's "Vegetable Kingdom," 14 monthly parts new, uncut, cost 28s., price 14s.; what offers? A. Fell, 24 West Street, Weston-super-Mare.

Ten volumes *Pharmaceutical Journal*, three volumes "Art Journal," 4th edition, Dunn's "Veterinary Medicines," all complete. Address, Rickman, 8 Waterloo Terrace, Lewisham.

Attfield's "Chemistry," 6th edition, 8s. 6d.; Garrod's "Materia Medica," 3rd edition, 6s.; Squire's "Companion," 8th edition, 4s. 6d.; Tanner's "Practice of Medicine," 7th edition, 21s. Jones, Pharmacist, Treherbert.

Fowne's "Chemistry," Hooker and Arnott's "British Flora," Griffith's "Pharmacopoeia Notes," "Selecta e Prescriptis," "Dispensers' Vade Mecum," Oliver's "Botany," Rosecoe's "Chemistry," British Pharmacopoeia, Macadam's "Practical Chemistry," Churchill's "Midwifery," 50 botanical specimens, a variety of materia medica specimens, two-celled galvanic battery. Offers, or would exchange for microscope. W. M., at Henderson's, 43 Eglinton Street, Glasgow.

Muter's "Chemistry," 7s.; Muter's "Materia Medica," 1s. 6d.; Bentley's "Botany," 3rd edition, 7s.; "Selecta e Prescriptis," 2s. 6d.; Muspratt's "Chemistry," in 63 1s. parts, 20s.; Smith's "Pharmaceutical Guide," 1s. 6d.; Royle's "Materia Medica," 4s.; Day "On Heat," 1s.; Robertson's "French," 1s.; Hall's "Algebra," 1s.; "Eton Latin Grammar," 1s.; Newth's "Natural Philosophy," 1s. 6d.; Pott's "Enclid," 1s.; Valpy's "Greek Delectus," 1s. Evans, Chemist, Millom.

"First Book of Botany," illustrated, 1s. 3d.; "Botanists' Calendar," 2 vols., describes the flowers of each month, 2s. 6d.; Graham's "Botany," 1s.; Kirke's "Physiology," 3s. 6d.; Bateman's "Magnaopoeia," 1s. 6d.; Judd's "Tinectures, Ointments, Syrups, Weights," 1s. 9d.; Judd's "Equations, Materia Medica, Physics, Analysis, Latin Prescriptions, &c.," 5s.; Quain's "Anatomy," 2 vols., 12s.; Ferguson's "Surgery," 4s. "Student," 32 Richmond Road, Barnshury, N.

Soda-water Plant.

Soda-water machine, by Mondollot, No. 0, second-hand; Hayward Tyler & Co.'s continuous-process beam-action soda-water machine, large size, No. 1, with fast and loose pulleys for power, and handles for manpower, second-hand; soda-water machine, by Davenport, second-hand. Wilcocks, Back Street, Bath.

A continuous soda-water machine (Tyler's cylinder), in wood frame, for hand or other power—the first invented with glass plunger and wash bottle; gas generator, and a 50-gallon gasometer; all complete for 257. Also some 20-gallon jars, stands, a 6-gallon copper cylinder, and 2 coppers, 25 and 30 gallons, with fittings, &c. Also some mill-work that may be economically used by pony horse power or other power. Apply to J. F., 10 High Street, Putney.

Shop Fittings.

Cheap, eight 2-gallon pear-shaped carboys. Hammond, Chemist, Hull.

Forty deal stock-boxes, with lids, 11 by 9 by 4, also 40 ditto, 10½ by 8½ by 7. Raimes & Co., York.

Epps' mahogany homeopathic show-case, containing 80 2s., 85 6d. tinctures and pills what offers? B., 11 Bridge Street, Goolc.

Show-case, fig. 3, Maw's catalogue, good as new, cost 117. 14s., take 77., or will barter. Ferguson, Chemist, Leeds.

Two new signs, one chemist one druggist, vermilion, gold and blue, for corner or double window, bargain. 40 Sutton Street, Sheffield.

For Immediate Sale.—Shop-fittings, glass cases, counters, shop bottles, drawers, large stove, fireproof safe, &c. Apply to J. Shaw, 24 Great George Place, Liverpool.

Five handsome chemist's shop fittings complete, for disposal, done up equal to new, great bargains, arranged to suit any shop. Lloyd Rayner, 333 Kingsland Road, London, N.

Offers wanted for 18 globe-shaped black store-bottles, also for several dozen narrow and wide mouth shop-rounds, blue syrup-bottles, &c., labelled, and in fair condition. Smith, Chemist, Ilfracombe.

One set brass counter scales, box end beam, mahogany stand with drawer, total height about 27 inches, 17s. 6d.; 1 glass show-jar, with painted cover, height to cover about 30 inches, labelled Turkey rhubarb, 25s. W. L. Bridgman, St. Mary's Church, Torquay.

A Bargain.—The entire fittings of a chemist's shop, new; solid mahogany-fronted drawers, glass knobs, ditto shelves, glass cases, window frame, colour globes, 150 new labelled bottles; Avery's scales, sundry drugs, &c.; also three pair Avery's scales, good as new. Particulars, B., 11 Bridge Street, Goolc.

Fittings for shop, about 12 by 14, 19l. 10s.; ditto 12 by 12, 25s.; ditto, all mahogany, 14 by 16, with good cases, complete, cut to fit, 37l. 10s.; desk and case, as Maw's, 49s.; cases, as Maw's 105, 6 feet long, 6l.; 8 feet long, 8l. 10s.; painted wall-case, 8 feet long 9 feet high, 6l. 10s.; 5-foot mahogany wall-case, 5l. 10s.; good mahogany-top counter, full of drawers, 12 feet long, 90s.; dispensing-screen, 6-foot mirror back to case and centre, 130s.; 36-inch bent-front case, 45s.; screens, with mirror centre and marble slab, 6 feet, 110s.; 7 feet, 125s.; 8 feet, 190s.; 9 feet, 200s.; 10 feet, 210s.; 12 feet, 250s. Write for particulars and illustrated lists to R. Tomlinson, St. Paul's Square, Birmingham.

13 ft. 3 long, 14 ft. long, 20 ft. long Spanish mahogany plate-glass wall-cases, similar to 212 Maw's; 5 ft. 6 long mahogany wall-case, 6 ft. 10 high; 2 mahogany wall-cases for recesses, 1 ft. 10½ long, 6½ ft. high; 2½ ft. long mahogany wall case, 3 ft. 10½ high; 20 mahogany wall-cases, with cupboards under, all sizes from 2 to 20 ft. long; 8 deal-stained mahogany wall-cases, all sizes; 2 ebonised wall-cases, with glass cupboards under, 10 ft. and 12 ft. 3 long; ebonised side counter, with 6 glass doors to open, shelf enclosed, with an air-tight sloping plate-glass front show-case on top, with 6 plate-glass doors on top, hinged to lift up in front, silvered plate-glass back, 8 in. high in front, 18 in. high at back, 19 in. deep, height complete at back, 4 ft. 9 in. Lloyd Rayner, 333 Kingsland Road, London, N.

3 mahogany bent-glass counter cases, 2 ft. 6 long, 17s. each; 4 ditto 3 ft. long, 22s. each; sponge case design, as Maw's 92, 4l. 10s.; new soda water stand, as Maw's 63, 70s.; Maw's 52 tooth brush case, 32s.; one similar, 28s.; new revolving tooth brush case, as Maw's 73, 65s.; 3 ft. mahogany dispensing case screen with glass tablet, 63s.; 4 ft. plate glass mahogany dispensing case screen, as 40 Maw's, 90s.; Maw's fix. 37 desk, 40s.; 2 ft. 3 long plate glass case, 55s., as 38 Maw's; 2 ft. 3 upright case, design as 13 Maw's, 40s.; 4 ft., 5 ft., 6 ft., 9 ft. 6 long mahogany plate glass counter cases, as 100, 101, 103, 105 Maw's; 18 handsome mahogany dispensing case screens, from 3 to 8 ft. 7 long; 4 2 ft. 6 long mahogany and ebonised show stands; 6 ft. long mahogany show stand, with mirror back; 3 mahogany cigar cases; label chest, 26 Maw's; 25 nests superior mahogany deal dovetailed shop drawers with gold and glass labels; large quantity shop drawers, with lockers under shelving and cornice above; 18 mahogany top counters, with drawers, &c., all sizes; quantity shop chairs; quantity shop bottles and jars, all sizes; 80 pear-shape window carboys, from 1 up to 10 gallons; 16 handsome speeie jars; quantity mortars and pestles; counter and dispensing scales; tincture presses; pill and pastile machines; root cutters and cork presses; large mills for making ung. hyd. and mixing powders. Lloyd Rayner, 333 Kingsland Road, London, N.

Formulae.

Syr. ferri iodid., B.P., keeps colourless and without change, reliable, 5s. 29/4.

Specific for gonorrhoea, one bottle a cure, recipe 1s. 1d., stamps. 11/31.

Toilet lime cream, valuable recipe, emollient, pearly white, and quite inseparable, 5s. 4/29.

An entirely new cure for epilepsy, falling sickness, or other giddy sensations, never fails, would make a good proprietary article, recipe, 5s. stamps. 31/11.

Lin. ammonia alb., without oil, inseparable, 3s. 6d.; eau de Cologne, resembles Farina's, 3s. 6d. 31/24.

The recipe for a first-class perfume, "The Devonshire Nosegay," or "Gem of the Toilette," price 3s. 6d. "Chemist," 20 Dean Street, Bedminster, Bristol.

My formula for glycerine cough linetuss was the success of the winter season. I will guarantee my recipe for glycerine cosmetic lotion will give equal satisfaction during the coming summer season. Free on receipt of 12 stamps and stamped directed envelope from H. Lloyd, 14 Union Street, Plymouth.

Perfect cold cream, unalterable, excellent essence bouquet; oriental tooth-powder (by eminent dentist), would make good proprietary article; saponaceous tooth-wash; each formula 1s. 20/20.

The 20s. premium for perfume has been awarded to Mr. Evans, Champiou Hill, S.E., proprietor of C. & D., and the formula of this superb perfume is now offered for 2s. 6d. "Chemist," 11 Hopefield Terrace, New Wandsworth.

These genuine recipes, 5s. each, five for 1l. — Eau de Cologne, resembles Farina's; iron and quinine tonic; glycerine lime cream, snow-white, inseparable, costs 2s. 6d. gal., including perfume; effervescing saline, resembles Eno's, costs 6d. lb. Send stamped directed envelope for complete list. Several reliable formulae, 1s. 1d. each and upwards. Special arrangements for quantity. "Analyst," care of Stobbs, Chemist, North Shields.

The following reliable formulae post free nine stamps each, six for 3s. 6d.: — Fruit saline (superior), transparent cement, ginger-beer powder, limes and glycerine (white and inseparable), rosmay hair-cleaner, superior starch gloss, tie pills (very efficacious), pill coating, black writing-ink (without gall or iron), chlorodyne, perfumery, hair-washes, &c.; detailed list on receipt of stamped envelope. Special terms for quantity. "Chemists," 6 Mulberry Place, Edinburgh.

The original recipe for "Bate's Salve," 2s. 6d.; a guaranteed cure for rheumatism; tic mixture, cures 15 out of 20; syrup of phosphorus, Nature's chemical food, 5s. each; Chinese starch glaze, anodyne essence, instant cure for toothache, tie pills, sweetbriar scent, bouquet de la Reine, a delicious scent, needs no distilling; euro for itch, clear, nearly odourless; egg-powder, mixture and lotion for gonorrhoea, cement equal to diamond, costs 1d. per oz.; starch glaze, 2s. 6d. each. J. C. Akester, Chemist, Hull.

The antidote to profitless trading in patent medicines consists in the chemist introducing preparations of his own, which, if reliable and neatly put up, have always a remunerative sale that the "cutter" cannot interfere with. What most chemists lack in order to act on the above principle are formulae which are at once effectual, elegant, and inexpensive. Amongst several such that E. Hampson, 21 Baxter Road, Islington, N., can supply, he may mention his "neuralgic pills," which positively cure nine cases out of ten, and cost 3d. per gross; original proprietor clears 70l. yearly by them without advertising; price 5s. "Antispasmodic drops," which are simply without equal, invariably removing pain in a few seconds; price 5s. "Glycerine jelly" as made by a well-known West-end firm, unsurpassed for elegance and efficacy. Several others equally good, all being the result of long experience and the most careful selection; price 2s. 6d. each. List forwarded on receipt of stamped envelope.

"Syrup. Cineh. Flav. Concent. eum Ferri Phosph.", 1 3 to bottle soda or other adjuvant water forms a potentia equalling zedone; "Pill-coating," lustrous, pearly, and durable, no mullage or varnish, simple, cheap, and expeditious; "Effervescent Depurative Saline," facsimile of Eno's, keeps as well; "Instantaneous Toothache Cure," entirely new remedy, never fails, nor injures other teeth; "Nigerine," lustrous, raven, waterproof polish, better and much cheaper than "Nubian"; "Digestive Relish," mellow and piquant, best and cheapest sauce in market; "Lime-cream and Glycerine," guaranteed inseparable, and best extant, cheaply produced; "Foaming Dentifrice" equal to florine, at one-eighth cost producing; "Blood-purifying Powder," London surgeon's recipe, excellent spring medicine, very profitable; "Red-rose Lotion," like sulpholine, invaluable skin depurative, removes tan, freckles, &c.; recipes of above genuine preparations all easily and inexpensively prepared, 1s. 1d. each, three for 2s. 6d., post free, with full directions. Brooks, Chemist, Louth, Lincs.

Fragrant foaming dentifrice (like "Floriline"); marking ink, *sine* silver (aniline), writing executed defies chemicals; effervescing fruit saline (resembles Eno's); magie neuralgic drops (never-failing remedy); quinine and iron tonic (resembles Pepper's); lime-juice and glycerine (inseparable, white as milk); blue-black ink (non-corrosive, *sine* iron or galls); cherry tooth paste (never ferments, like Gornel's); brilliantine (inseparable, like Rimmel's); pill-coating, (pearly white, no mullage or mastic used); glycerine jelly (perfectly transparent); crimson marking-ink; hair-restorer (colourless, no deposit, *sine* silver); aromatic vinegar; toilet vinegar (as Rimmel's); plate-powder (like Stevens' "Silicon"); Oleum. Flavam Conc., for pomades (colour stable); soluble essence ginger (like Hay's); eorn solvent, clear (not acid); liquor copoibae comp. c. buchu et matice (mixes clear with water); gonorrhoea paste, excellent (Dr. Ricord's); with many others; send stamp for list, stating wants. Chemical analyses for the trade. The toilet preparations are identical with those prepared by a wholesale West-end firm; others equally good; all inexpensive to make; 5s. each (five for 1l.). Readers are cautioned against cheap and worthless imitations. I was first to advertise formulae in this journal. Note address, "Analyst," care of Mr. Warner, 79 Gaisford Street, N.W.

Miscellaneous.

Five or six dozen Sulis water, half retail price or exchange. 23/27.

Violins.—Two beautiful models, Steiner and Strad, fine tone. Webb, Chemist, Calae.

Handsome 15-carat gold Albert and locket, cost 8l., sacrifice, 4l. 10s., approval deposit, 12/30.

The whole of a tobaccoist's stock of pipes, pouches, ferrules, ambers, &c., greatly below cost. K., 15 Blagdon Street, Blyth.

A smart Cremona violin, Strad copy, beautiful case and bow, fine playing order, price 27s. 6d., approval. John Carter, 1 Broad Street, Pendleton.

Cheap.—A good second-hand air-bed (10 tubes), in perfect order for use, 5 feet wide 6 feet long, with bellows for inflating same, 3l.; mahogany glass case, as Maw's, fig. 43, 3 feet long, equal to new for use, 5l.; Halse's battery; 10 2-gallon pear-shaped carboys, 2s. 6d. each. R. Lemmon, Hythe.

Twenty McDougall's carbolic acid drums, 3 to 5 gallons, all sound, cash or exchange. W. H. Willson, New Shoreham.

Genuine Bargain.—Lady's 18-carat half-hoop ring, with five beautiful diamonds; lowest cash price 5*l.*; cost 10*l.* 10*s.* at Christmas. 33/2.

Job lot of 6 oz. fluted champagne-shape bottles for putting up oil or syrup, about 10 gross, very cheap. Sangster, Chemist, High Street, St. John's Wood.

A complete set of electroplated dinner, dessert, and teaspoons and forks, A 1 quality, price 7 guineas, a great bargain. Particulars of H. T. Jeffery, Watford.

A quantity of lime cream and glycerine of excellent quality, nicely capped and labelled in 4 oz. and 8 oz. bottles at 3*s.* 6*d.* and 5*s.* per doz. J. Jones, Kilnhurst, Rotherham.

Light spring two-wheel delivery truck, covered, painted green and black, 3 guineas, cost 6; capital mill, suitable for coffee, pepper, or seeds, with heavy fly-wheel, good condition, 20*s.*; jacketed steam-pan, enamelled inside, for boiling syrups, about 10 gallons, good condition, offers wanted; electro-plated suppository mould, for six; searificator, as fig. 3, never used; and stump forceps as fig. 19 (Tomes' pattern), the lot 2*s.* Moore, Chemist, Cheltenham.

Six 1-lb. bottles excellent hair-oil perfume, at 6*s.* 6*d.* per lb. Fourteen ½-lb. ditto, 3*s.* 6*d.* each; 1 oz. sufficient for 1 gal. oil. Palmer, Pharmaceutical Chemist, Lynn.

A pair of first-class framed chromotype engravings, subjects, "Christ and St. John" and "Christ Receiving the Tribute Money"; price 1*l.* "Chemist," 20 Dean Street, Westminster, Bristol.

WANTED.

Dentists' outside show-case; cheap. Pretty, 3 Dunganon Terrace, Walbam Green.

Surplus stock patents; send list with price; or exchange, soiled or clean. Fowler, Boston.

Three dozen Rensall's Liebig's malted food extract for adults. Atkins, Salisbury.

Hanbury, Fluckiger's "Pharmacographia," state edition, lowest price. Procter, 2 Albert Terrace, Kilburn.

Glass cases, similar to Maw's No. 3, 23, 73, 105; must be cheap. Jones, Pharmaceutist, Treherbert.

Chemist and Druggist Trade Directory for 1880 or 1881; state lowest price. P. A. Stevens, Woodberry Town Pharmacy, Stamford Hill, N.

Apollinaris bottles.—7*d.* per doz. is given for these bottles if delivered carriage free at Wrexham Station by J. F. Edisbury & Co., Wrexham.

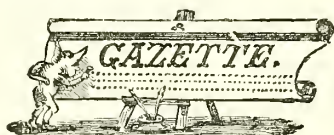
Beasley's "Pocket Formulary and Synopsis of British and Foreign Pharmacopœias," P. H. F., 9 Upper Talbot Street, Nottingham.

Beasley's "Receipts," late edition; 6 dozen each narrow and wide mouthed stoppered rounds, 10 and 20 oz.; 1 dozen ½ or 1 gallon black store bottles. K., 15 Blagdon Street, Blyth.

Dickens' works, original editions, unbound, odd or complete numbers; also Cruikshank's "Table-book," "Omnibus," or "Comic Almanacks," 1835 to 1851. W. Marson, Chemist, Stafford.

Wantel, in perfect order, a portable nitrous-oxide apparatus, with gas-bottle and case. State lowest cash price and makers' name to J. P., 58 Tatham Street, Sunderland. No economisers need reply.

Chemist and Druggist, 1879, 1880; Muspratt's "Chemistry Applied to the Arts," Piesse's "Art of Perfumery," Cooley's "Cyclopedia of Practical Receipts," latest editions. Lowest price to A., 57 Grovedale Road, Upper Holloway, London, N.



LIQUIDATIONS.

BROOKES, OWEN, 2 St. John's Buildings, Mostyn Street, Llandudno, chemist and druggist. April 22.

GIBBS, WILLIAM, 27 King William Street, Strand, vendor of a patent medicine; 311 Bristol Road, Birmingham, iron merchant and metal broker; and Chibbet Farm, Exford, Minchew, farmer. April 14.

HUSKINSON, JOHN LOVATT, dentist, trading as Huskinson & Co., chemist, and as Huskinson & Marriott, dentist, formerly of 164 St. Ann's Well Road, now in lodgings, 39 St. Ann's Well Road, Nottingham. April 12.

LEWIS, GILES, 95 Upper Kennington Lane, cattle-medicine vendor. April 26.

MAPLESON, HORSLEY THOMAS, 26 and 34 Devonshire Street, Portland Place, surgeon, chemist, and druggist, under style of J. Thomas. April 27.

TAYLOR, MARTIN, KIDD, SAMUEL, and GREENALL, PETER, Widnes, chemical manufacturers, under style of Taylor, Greshall & Kidd. April 29.

WATSON, HENRY WILLIAM, JUN., Livingstone Road, Sunderland, wholesale druggist, grocer, and tea merchant. April 16.

WILLEY, JOSEPH, Hoyland, near Barnley, chemist and druggist. April 26.

UMFREVILLE, RICHARD EDMUND, 17 Meadow Row, New Kent Road, and 66 Waterloo Place, New Cross Road, Deptford, manufacturer of aurogato and antiseptic. April 6.

USHER, ROBERT, Brook Street, Ilkley, chemist and grocer. April 6.

SCOTCH SEQUESTRATIONS.

BRUNTON, ANDREW, Partick, chemist and druggist.

GEDDES, ROBERT, Saracen Street, Possil Park, Glasgow, chemist.

PARTNERSHIPS DISSOLVED.

CROWN PERFUMERY COMPANY and THOMPSON, STAMP & Co., Cheapside, London, Fairfield Works, Bow, and New Bond Street, and late at the New Fairfield Works, Old Bailey, and New Bond Street, perfumers. February 1. (William Sparks Thompson and Edward Blaushard Stamp.) Debts by W. S. Thompson.

MILLARD & ETCHALLS, Bee-hive Works, Droydsden, and Widnes, manufacturing chemists. March 28. Debts by Millard.

SPONG & SON, Biggleswade, chemists, druggists, booksellers, stationers, &c., and wine merchants. December 31. (Thomas Willson Spong and Douglas Morton Spong.) Debts by D. M. Spong.

ABSTRACTS OF SPECIFICATIONS.

FOR permission to print the following we are indebted to the courtesy of the *Engineer*:—

4453. Tar-inhaling Cigars, &c., A. Rousseaux.—*Dated November 1, 1880. 6d.*

This consists of a tube shaped to represent a cigar, but perforated to allow the passage of air into the mouthpiece, through which it passes and becomes charged with tar or other medicaments, contained in the mouthpiece, before passing into the chest and bronchial tubes.

3417. Medicinal Preparations, W. E. Gedge.—*Dated August 23, 1880. (A communication from A. G. da Motta Basto.)—(Not proceeded with.) 2d.*

This relates to a preparation to be applied outwardly to burns, scalds, sores, rheumatic and other pains, and consists essentially of sugar, methylated spirits, and coriaria bitters.

3867. Oleine and Butterine, B. Hoffmann.—*Dated September 24, 1880. 4d.*

Beef and veal suet is cleaned, and then melted in a tank containing 60 gallons of water at a temperature of 60° or 70° C., to which is added 25 lb. salt, 1½ lb. to 2 lbs. carbonate of potash, ½ lb. chlorate of potash and 1½ lb. of nitrate of soda. The melted fat is then pumped into an iron tank placed in a wooden tank containing water at 35° C., and 4 lbs. of fine salt is added. The fat is afterwards placed in a hot room for 10 or 12 hours at a temperature of from 25° to 30° C., and finally pressed into cakes by a suitable press. To give butterine a nutty flavour from 25 to 30 per cent. of best ground nut or sesame is added to it.

3908. Mineral Oil Soap, P. M. Justice.—*Dated September 27, 1880.—(A communication from L. Bastet.) 4d.*

This relates to the process of forming a saponaceous compound, consisting of combining mineral oil with animal and vegetable fatty matter, or either boracic acid and an alkali.

3918. Preparation for the Cure of Diphtheria, &c., F. Van Sandau.—*Dated September 27, 1880.—(A communication from S. H. Longard.) 2d.*

This consists in a composition resulting from the combination of and the operation upon the following:—Myrrh, sulphuric acid, rectified spirits of wine, and pure water,

Foreign and Colonial.

THE MANUFACTURE OF OXYGEN.—Works have lately been established in Paris for the manufacture of oxygen gas on a large scale. They are capable of producing 11,000 cubic feet per day.

THE GERMAN PHARMACOPEIA.—It is stated that the Committee on the Revision of the German Pharmacopeia was unable to meet at Easter as originally proposed, for several of the collaborateurs were not ready with their reports.

AUSTRIAN MINERALS.—The following were the quantities of ores of some of the rarer metals brought to the surface in Austria in 1878 and 1877—metrical centners:—Nickel ore, 762.48, or 290 less than in 1877; bismuth ore, 0 and 1.2; antimony ore, 1,368 and 1,680; uranium, 71.21 and 69.64 tungsten, 155 and 395; chromium, 310 and 950.

NAPHTHA IN PERSIA.—There are certain springs in the rocks close to the village of Salakh, opposite to Hengiam, on the Persian Gulf, the waters of which are warm and charged with salt, yielding naphtha of a reddish colour. It is highly combustible, burning with thick smoke. The natives use it for illuminating purposes, and as an application for rheumatic complaints.—*Consular Reports.*

BUCHANAN'S DEGREES.—It is stated in American journals that Buchanan has handed over to the United States Government all the papers concerning his bogus degree trade, including the names of some 5,000 individuals there and in foreign countries who have dealt with him or have applied to him. It is very desirable that those names should be published. Men who are going about with a bogus degree are imposing upon their acquaintances, and deserve exposure quite as much as Buchanan himself deserved punishment.

QUININE MANUFACTURE IN EUROPE.—There are at present 11 large quinine factories in Europe. In England those of Howards and Whiffen; in France Pelletier, Delondre & Levaillant, and Taillandier (Argenteuil); in Germany Böhringer & Geyer (Mannheim), Böhringer (Stuttgart), Jobst (Stuttgart), Zimmer (Frankfort), and the Brunswick Quinine Factory; in Italy there is a large factory at Milan under the management of another Böhringer, and another at Genoa belonging to Messrs. Dufour Frères. Now a twelfth factory has been founded by a M. Diemont, at Amsterdam.

CURIOUS EXPLOSION.—An extraordinary explosion of a fewer occurred last week at Friburg, which shook the whole town and seriously damaged several houses. From an investigation which has since been made it appears that a barrow of benzine had been overturned in the cellar of a drug store, 100 metres from the scene of the explosion. The contents ran into the main sewer, where they were rapidly converted into gas, which, finding its way into a house, took fire and exploded the moment it came in contact with a flame. The injury to property was considerable; but, though people passing in the street were thrown down as if by a violent earthquake shock, no lives were lost.

AN AUSTRALIAN NATIVE MEDICINE.—The Australian papers report the discovery of a new remedy for asthma and other diseases of the respiratory organs in a decoction of the leaves and stalks of the *Euphorbia pilulifera*. The properties of the plant are said to have been known for some time; but the best way of preparing the drug has only lately been discovered by Dr. Carr Boyd, a medical man in Townsville, Queensland. A decoction made by immersing a handful of stalks and leaves in two quarts of water, reduced by boiling to three pints, and taken three times a day, a wineglassful at a time, is said to be an excellent remedy for asthma, bronchitis, and other kindred maladies. It is said also to possess tonic and soporific qualities.

THE DESERT SHALL BLOSSOM AS THE ROSE.—GROWING VINES ON CACTUSES.—A great discovery has been made on the Mojave Desert, says a San Francisco paper, which seems destined to revolutionise viniculture in southern California. It has been found that grape cuttings, inserted in the trunk of the cacti on the desert, grow and thrive as vigorously as in cultivated land. This fact is of great importance to the

people. By the use of a chisel a man can plant a large vineyard in a day, and the vines so planted will climb the cactus and grow luxuriantly, without cultivation or irrigation. The dry, hot sands of the desert will afford a fine place for drying raisins. In addition to grapes it has been proved that melons, cucumbers, and tomatoes will grow from the cactus stock, so that, practically, the desert may soon bloom as the rose.

PRESCRIBING IN ENGLISH.—A Bill is now before the State of Pennsylvania with the following preamble:—"Whereas, grievous errors and mistakes have been made by druggists and others in the compounding of the prescriptions of physicians by reason of the same being heretofore written in the Latin language and in abbreviations thereof, as well as the quantities or proportions of the drugs or medicines being designated therein by figures or symbols in a mode not readily understood by the bulk of the people, whereby undue advantage and mystification of the patients may be taken by unscrupulous doctors, druggists, and persons who prescribe or compound medicines for the sick and poor, and, it being desirable to simplify the practice of medicine and to enable the public generally to better comprehend the names and nature of such drugs." All physicians and others prescribing, therefore, are, under a penalty of \$20, to be compelled to write the names and quantities in English, without abbreviations; and a copy of such prescription is to be affixed to the bottle or packet containing the medicine in question. All druggists, under a penalty of \$10, are to be compelled to conspicuously label, in unabbreviated English, everything they sell.



THE official trade returns for April are very discouraging. They indicate unmistakably that the period of prosperity, which we had been so often assured was but just opening, has received a severe check, even if it has not come to an end. Imports for the month were 13 per cent., and exports 7½ per cent. less than in April, 1880. Nearly all the chief sections of our manufacturing industry seem to contribute to the decline. Chemicals, iron and steel, cotton, linen and woollen goods are less prosperous than a year ago, and in each department there is a greater discrepancy in value than in quantity—a sure sign of languid markets. Analysis of the returns seems to show that our capacity for production far outruns the absorbent ability of the world, the consequence being that on the first appearance of a revival of trade all works are set going, and in a very little while markets are hopelessly glutted. Another month or two will show whether this is the case now, but the country will be more than ever dependent on the harvest prospects this year for its commercial safety. The enormous flood of speculation which has distinguished the early months of this year is pregnant with disaster as soon as confidence fails. If the present check should induce caution, and prove only temporary, it will be a useful factor in developing prosperity.

The Board of Trade Returns for April show the value of the imports of the month to have reached 35,232,364*l.* against 40,612,067*l.* in April 1880, and the exports 18,130,331*l.* in April 1881 against 19,623,360*l.* in April 1880. The following were the exports of chemicals:—

	April, 1880	April, 1881
Alkali	654,957 cwt.	593,408 cwt.
"	239,819 <i>l.</i>	166,081 <i>l.</i>
Other Chemicals ..	213,921 <i>l.</i>	218,136 <i>l.</i>

The trade in heavy chemicals is undoubtedly in an unhealthy condition. Competition has reduced prices to such a low level that production is declared to be totally unprofitable. Except in the few happy months of rather more than a year ago when the prosperity of the manufacture attracted the attention of Lord Beaconsfield, chemical manufacturers have, according to good report, suffered severely. They

have been in a chronic state of selling out stocks in the hope of starting clear. Now that a large number of the smaller men have failed, the chief manufacturers in the North, it is said, have resolved to face the consumer and refuse his orders unless they can be taken at a profit. One of the daily papers has made itself the organ of the poor chemical manufacturer and his troubles. We are confident that he will take fairly good care of himself, and we should like to reassure the City editor of the *Daily News* on this point. If he ever does accept orders at unremunerative prices, it may be taken for granted that he has fairly good reason for doing so, and that it is not on account of any cruel law, nor yet in consequence of the determination of the purchaser. It is pretty certain, nevertheless, that prices for alkalies and the other products of the North have been reduced to about the bottom. They have never been lower all round, and the fact that with a dull demand they have not sunk much lower during the past month or two is evidence that the trade is brought to its closest limits.

A slightly better feeling is apparent this month. Orders for abroad have been more abundant, and production is decidedly lessened. There is more inquiry for forward contracts, but makers are not willing to enter into these at present rates. The market is very sensitive, and if American orders should increase a higher price would result immediately.

Soda crystals are dull at 62s. 6d. per ton; no change since last month. Caustic has declined from 10s. 6d. to 10s., and bicarbonate is also somewhat easier at 10s., with a quiet trade at that figure. Potash salts, too, are fractionally cheaper, chlorate being bought for 6d., prussiate at 10d., and bichromate at 6d.

Bleaching powder is now offered at 5s. to 5s. 3d. landed, with a moderate business. This has declined from 7s. a year ago.

Carbonate of ammonia remains at 6½d. to 6¾d. per lb. according to packages; sulphate still a trifle lower, with very dull demand at 19s. 3d. to 20s. per cwt. according to colour and make.

The demand for cream of tartar and tartaric acid has been dull until within the past few days and price has been rather unsteady. But some large parcels of foreign tartaric having been cleared off the market, and more demand springing up, the latest quotations are about the same as last month, with every appearance of a rise.

Citric acid has varied four or five times during the present month already. Most of the transactions have been booked at 1s. 10d. and 1s. 11d. Just now, however, makers will not accept less than 2s. for immediate delivery, though orders for the future are entered at 1d. less. The latest price quoted for lemon juice at Messina is 23s. per pipe, on the basis of 64 ozs. citric acid per imperial gallon. This is a lower price than has been current.

Oxalic acid has sold largely, and is now quoted at 4½d. without discount. Last month a discount of 2½ per cent. was offered.

Quinine had declined from 12s. 6d. (for English), in the early part of April to 11s. at the close, but last week a sudden advance to 11s. 6d. at the time when a further fall was anticipated caused some surprise. Very large quantities of bark are on the market, and the demand at the sales has been by no means brisk, but the proportion suitable for quinine manufacturers is not very large, and is held firmly.

The position of opium continues inexplicable. There appears to be no doubt of the fact that about a hundred thousand pounds worth of the drug is locked up in the possession of the New York Syndicate, and that this quantity was withdrawn from last year's very small crop. There is no report of any leakage from this speculative holding, and yet there appears to be far more than enough outside stock to supply all the wants of the market. Indeed so limited is the demand that it would hardly seem as if the market wanted any at all. There are still three months before the next crop can begin to be available, and it is of course subject to various accidents before it is actually in stock. But there seems no doubt of the actual fair prospect of a large crop. A "boom" is still promised by the bull party, but some of the parties most largely concerned in the drug here seem perfectly confident that low prices will rule throughout the year. The present quotations are quite nominal, and could not be obtained for any opium forced upon the

market at this moment. Morphia has fallen to 7s. 3d. per ounce.

Aloes.—Cape remain scarce and prices rather better.

Balsams.—Copaiba is very firm at the recent high prices. Peru after being cheaper has again advanced.

Arrowroot.—West Indian kinds are in plentiful supply. Natal is to be bought at from 3½d. to 6d.

Borax is quoted at 62s. for Howard's, and 60s. for other makers.

Camphor.—The market is very flat, as buyers are confident that much lower prices must be accepted in view of the large stock here and afloat.

Essential Oils.—Lemon and bergamot are easier. Aniseed is firm. American oil of peppermint rather cheaper.

Cubebs are again run up to a fancy price, but there is very little business done at current quotations. Ginger is higher in consequence of reports of a short crop of Cochin. Mace is 1d. per lb. higher. Cloves rather easier, but Chillies somewhat advancing.

Gums.—Assafoetida, in the absence of supply, is firm. Benjamin is held at high prices, but is not much inquired for. Arabic is quoted rather in buyers' favour. Olibanum is rather more plentiful, and with our export orders is cheaper.

Salicine.—Makers have suddenly reduced their prices from 10s. to 7s. 6d. per lb.

Almonds.—The reports of the prospects of the new crop are very favourable.

Cod-liver Oil.—Reports from the Norway fisheries are not favourable, and the oil is somewhat dearer.

Olive Oil.—All reports agree that there is prospect of an abundant supply for the next season, and holders have had to press sales. The result is a still further reduction. The holdings at the Italian ports are said to be so large that, unless a demand sets in soon, further supplies from the country will have to be rejected for want of available cisterns.

The April sales of indigo resulted in a decline of from 2d. to 3d. for fine Bengal qualities, but Madras good qualities were sold at rates higher by 3d. to 6d. Oudes and Kurpahs sold at about par with January prices on the average. The statistical position of the article, we are told, justifies anticipations of an advance.

Turpentine is steady at 30s. for spot, though it has been selling at 2s. below this, and is quoted 26s. 6d. July-December.

Petroleum is very steady at low quotations.

Monthly Statement of the Stocks at the Port of London on April 30, 1881 and 1880.

	1881	1880		1881	1880
Aloes .....cs	3,103	1,491	Gum (cont.)—		
"kegs		12	Damar.... pkgs	3,275	4,540
"gourds	215	307	Galbanum .. "	1	12
Aniseed, Star chts	588	328	Gamboge.. "	226	172
Arrowroot ....cs	12,619	12,817	Guaiaacum.. "	23	50
" bxs & tins	9,265	13,999	Kino	27	34
Balsam.....cs, &c.	35	16	Kowrie .....tns	787	483
Bark, Medicinal			Mastic .....pkgs	121	122
cks, &c.	1,779	722	Myrrh, E.I.	273	183
" srns, &c.	36,083	18,804	Olibanum .. "	5,737	3,965
Borax.....pkgs	682	490	Sandarac.. "	52	67
Bees' Wax ..bls & srns	918	905	Senegal.....tns	10	16
" cks & cs	1,602	2,519	Tragacanth pkgs	1,699	2,943
" cakes	60	6	Ipecac. ....cks & bgs	208	138
Wax, Jap.veg. pkgs	5,964	5,632	Jalap .....bls	293	236
Camphor ....pkgs	3,825	4,534	Nux Vomica pkgs	1,902	919
Cardamoms ..chts	513	433			
Coco. Ind. bgs, &c.	796	1,230	Oil—		
Colombo root pkgs	531	366	Castor .....cks	63	198
Cream Tartar..cks	108	159	"cs	9,947	16,725
Cubebs .....bgs	93	98	Palm .....tns	623	1,171
Dragonsblood chts	263	181	Cocoonut....tns	10,106	6,596
Galls, E.I. cks & cs	2,750	4,415	Olive ..cks, &c.	1,236	1,254
M'terranean sks	1,408	625	Aniseed .....cs	155	287
			Cassia .....cs	328	351
Gum—			Opium .....chts, &c.	967	982
Ammoniac pkgs	321	399	Rhubarb.....chts	766	1,065
Animi & Cojal pkgs			Sarsaparilla ....bls	337	555
Arabic, Barbary pkgs	8,986	2,275	Senna ....bls, &c.	1,791	1,687
Turkey .. "	1,219	2,589	Shellac—		
E.I. "	1,918	3,033	Orange....chts, &c.	15,713	22,824
" "	2,890	2,066	Garnet.. "	13,093	13,987
Assafoetida .. "	527	324	Button.. "	4,546	2,510
Benjamin.. "	2,705	2,370	Turmeric ....tns	2,936	3,067
			Vermilion	105	132

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.

	Last Month		This Month	
ACIDS—	s. d.	s. d.	s. d.	s. d.
Acetic .....per lb.	0 3½ to	0 0	0 3½ to	0 0
pure "	0 5 ..	0 9	0 5 ..	0 9
glacial .. "	1 0 ..	1 11	1 0 ..	1 11
Benzoic Sublimate ..	6 0 ..	0 0	6 0 ..	0 0
Ex. Gum..per oz.	0 9 ..	0 0	0 9 ..	0 0
Citric "	2 0½ ..	0 0	2 0 ..	0 0
Gallic. "	4 3 ..	0 0	4 3 ..	0 0
Hydrochlor.....per cwt.	5 0 ..	7 0	5 0 ..	7 0
Nitric .....per lb.	0 3 ..	0 4	0 3 ..	0 4
Oxalic "	0 4½ ..	0 0	0 4½ ..	0 0
Sulphuric "	0 1 ..	0 0	0 1 ..	0 0
Salicylic "	8 0 ..	8 6	8 0 ..	8 6
Tannic "	1 7 ..	2 8	1 7 ..	2 8
Tartaric English ..	1 7½ ..	1 8½	1 7½ ..	1 8
foreign .. "	1 7½ ..	1 7½	1 7 ..	1 7½
ANTIMONY ore .....per ton	0 0 ..	0 0	0 0 ..	0 0
crude .. per cwt.	42 0 ..	0 0	42 0 ..	0 0
star .. "	61 0 ..	62 0	61 0 ..	62 0
ARSENIC, lump .. "	24 0 ..	0 0	24 0 ..	0 0
powder.... "	10 6 ..	10 9	10 6 ..	10 9
BRIMSTONE, rough ..per ton	125 0 ..	0 0	110 0 ..	123 0
roll .. per cwt.	8 6 ..	9 6	8 6 ..	9 6
flour.... "	10 6 ..	12 6	10 6 ..	12 6
GLYCERINE, German ..	72 0 ..	88 0	72 0 ..	88 0
refined..... "	50 0 ..	52 0	50 0 ..	52 0
crude brown .. "	0 6 ..	0 6½	0 6 ..	0 6½
IODINE, dry .....per lb.	1 0 ..	1 6	1 0 ..	1 6
MAGNESIA, calcined..per oz.	5 0 ..	0 0	5 0 ..	0 0
Pond, Hwds.....	125 0 ..	0 0	125 0 ..	0 0
MERCURY .....per bottle	16 9 ..	17 0	16 9 ..	17 0
MINIUM, red .....per cwt.	25 6 ..	29 6	25 6 ..	29 6
orange .. "	3 0 ..	0 0	3 0 ..	0 0
PRECIPITATE, red .. per lb.	2 11 ..	0 0	2 11 ..	0 0
white .. "	0 0 ..	0 0	0 0 ..	0 0
PRUSSIAN BLUE .. "	21 6 ..	0 0	21 6 ..	0 0
SANTONINE .. "	13 0 ..	0 0	7 6 ..	0 0
SALICINE..... "	25 0 ..	0 0	25 0 ..	0 0
THYMOL .. "	120 0 ..	0 0	120 0 ..	0 0
SALT—	147 6 ..	0 0	147 6 ..	0 0
Alum .....per ton	0 6½ ..	0 6½	0 6½ ..	0 6½
powder..... "	600 0 ..	760 0	600 0 ..	760 0
Ammonia:	380 6 ..	490 0	380 6 ..	490 0
Carbonate..... per lb.	8 0 ..	98 0	8 0 ..	98 0
Hydrochlorate, crude,	65 0 ..	80 0	65 0 ..	80 0
white per ton	36 0 ..	36 6	36 0 ..	36 6
Sulphate..... "	0 0 ..	0 0	0 0 ..	0 0
Argol, Cape .....per cwt.	5 3 ..	0 0	5 0 ..	5 3
Red..... "	69 0 ..	62 0	69 0 ..	62 0
Operto, red. "	2 8 ..	0 0	2 8 ..	0 0
Sicily .. "	4 2 ..	4 4	4 2 ..	4 4
Bleaching powd.... "	5 6 ..	6 0	5 6 ..	6 0
Borax, British refnd. ..	19 3 ..	0 0	19 3 ..	0 0
Calomel .....per lb.	45 0 ..	0 0	45 0 ..	0 0
Chloral hydrate, Saame's "	2 1 ..	0 0	2 1 ..	0 0
Liebreich's .. "	120 0 ..	121 0	120 0 ..	121 0
Copper:	95 0 ..	0 0	95 0 ..	0 0
Sulphate ....per cwt.	4 0 ..	4 9	4 0 ..	4 9
Coppers, green..per ton	4 3 ..	5 6	4 3 ..	5 6
Corrosive Sublimate p. lb.	42 6 ..	0 0	42 6 ..	0 0
Cro-Tartar, French, p. cwt.	72 0 ..	0 0	72 0 ..	0 0
brown .. "	8 0 ..	8 3	7 3 ..	7 6
Epsom Salts "	0 6 ..	0 0	0 6 ..	0 0
Glauber Salts "	24 0 ..	0 0	24 0 ..	0 0
Magnesia: Carbonate ..	33 6 ..	0 0	40 0 ..	41 0
Pond, Hwds..... "	0 6½ ..	0 6½	0 6 ..	0 6½
Morphia Murias .. "	0 10 ..	0 0	0 9½ ..	0 10
Potash:	1 11 ..	0 0	1 11 ..	0 0
Bichromate ....per lb.	0 6 ..	0 0	0 6 ..	0 0
Carbonate:				
Potashes, Canada, 1st				
sort .....per cwt.	24 0 ..	0 0	24 0 ..	24 6
Pearlashes, Canada, 1st				
sort .....per cwt.	33 6 ..	0 0	40 0 ..	41 0
Chlorate .....per lb.	0 6½ ..	0 6½	0 6 ..	0 6½
Prussiate .. "	0 10 ..	0 0	0 9½ ..	0 10
red .. "	1 11 ..	0 0	1 11 ..	0 0
Tartrate (see Argol and Cream of Tartar)				
Potassium:				
Bromide .. "	1 5 ..	1 6	1 5 ..	1 6
Chloride.....per cwt.	7 0 ..	0 0	7 0 ..	0 0
Iodide .....per lb.	8 6 ..	9 0	8 0 ..	0 0
Quinine:				
Sulphate, British, in				
bottles .....per oz.	12 6 ..	0 0	11 6 ..	0 0
Sulphate, French .. "	12 6 ..	0 0	11 6 ..	0 0
Sulphate, German .. "	11 0 ..	0 0	10 0 ..	0 0
Sal Acetos .....per lb.	0 7 ..	0 0	0 7 ..	0 0
Sal Ammoniac, Brit. cwt.	44 0 ..	45 0	44 0 ..	45 0

	Last Month		This Month	
	s. d.	s. d.	s. d.	s. d.
Saltpetre:				
Bengal, 6 per cent. or	22 3 to	22 6	21 0 to	21 6
under .....per cwt.				
Bengal, over 6 per cent.	21 0 ..	22 0	20 0 ..	21 6
per cwt.	25 6 ..	28 0	25 6 ..	28 0
British, refined .. "	10 1½ ..	10 3	10 0 ..	0 0
Soda: Bicarbonate .. "	45 0 ..	0 0	45 0 ..	0 0
Hwds. "				
Carbonate:				
Soda Ash ..per deg.	0 1½ ..	0 0	0 1½ ..	0 0
Soda Crystals per ton	62 6 ..	0 0	62 0 ..	0 0
Caustic .. "	10 3 ..	19 6	9 9 ..	10 0
Hypsulphite, per cwt.	8 0 ..	0 0	8 0 ..	0 0
Nitrate .. "	15 0 ..	15 3	14 9 ..	15 0
Zinc Sulphate .. "	12 0 ..	14 0	12 0 ..	14 0
SUGAR OF LEAD, White cwt.	36 0 ..	38 0	36 0 ..	38 0
Brown, cwt.	26 0 ..	0 0	26 0 ..	0 0
VERDIGRIS .....per lb.	0 10½ ..	1 2	0 10½ ..	1 2
VERMILION, English .. "	2 5 ..	0 0	2 5 ..	0 0
China .. "	1 10 ..	1 11	1 10 ..	1 11
DRUGS.				
ALOES, Hepatic ....per cwt.	80 0 ..	150 0	80 0 ..	150 0
Socotrine .. "	55 0 ..	180 0	53 0 ..	200 0
Cape, good.. "	46 0 ..	49 0	50 0 ..	54 0
Inferior "	43 0 ..	45 6	45 0 ..	49 6
Barbadoes .. "	45 0 ..	180 0	65 0 ..	170 0
Curacao .. "	41 0 ..	63 0	38 0 ..	65 0
AMBERGRIS, grey.....oz.	100 0 ..	110 0	79 0 ..	15 0
BALSAM—				
Canada .....per lb.	1 0 ..	1 1	1 0 ..	1 1
Capivi .. "	2 9 ..	2 10	2 9 ..	2 10
Peru .. "	8 6 ..	9 0	10 0 ..	10 9
Tolu .. "	2 5 ..	2 6	2 4 ..	2 5
BARKS—				
Canella alba.....per cwt.	15 0 ..	18 0	15 0 ..	18 0
Cascarilla .. "	17 0 ..	23 0	23 0 ..	24 0
CINCHONA—				
Calsaya, good and fine per lb.	6 0 ..	8 0	5 6 ..	7 6
medium "	2 6 ..	5 0	2 0 ..	4 6
N. Granad., fair to fine .. "	4 6 ..	7 11	4 6 ..	7 11
mid. to fair .. "	2 0 ..	4 0	2 0 ..	4 0
Columbian, fine .. "	3 11 ..	4 11	3 11 ..	4 11
ord. to fair .. "	0 6 ..	2 0	0 6 ..	2 0
Carthagena, good .. "	2 6 ..	4 2	2 6 ..	4 2
E. I. mossed .. "	3 6 ..	10 2	3 0 ..	9 6
Ceylon, crown .. "	4 6 ..	8 0	4 6 ..	8 0
red .. "	1 6 ..	4 0	1 6 ..	4 0
Darjeeling, red fine .. "	3 6 ..	4 0	3 6 ..	4 0
BUCHU LEAVES .. "	0 2 ..	1 1	0 2 ..	1 0
CAMPHOR, China ..per cwt.	90 0 ..	0 0	85 0 ..	87 6
Japan .. "	92 6 ..	0 0	87 6 ..	99 0
Refin. Eng. per lb.	1 3½ ..	0 0	1 3 ..	1 3½
CANTHARIDES, China .. "	1 5 ..	0 0	1 5 ..	0 0
Russian .. "	3 0 ..	3 4	3 0 ..	3 4
CHAMOMILE FLOWERS p. cwt.	25 0 ..	75 0	25 0 ..	75 0
CASTOREUM .....per lb.	20 0 ..	35 0	20 0 ..	35 0
DRAGON'S BLOOD, lb. p. cwt.	93 0 ..	330 0	93 0 ..	339 0
FRUITS AND SEEDS (see also Seeds and Spices).				
Anise, China Star per cwt.	85 0 ..	91 0	83 6 ..	0 0
Spanish, &c. .. "	23 0 ..	33 0	28 0 ..	37 0
Beans, Tonquin ..per lb.	3 6 ..	5 9	3 6 ..	6 9
Cardamoms, Malabar				
good .. "	6 3 ..	7 6	6 3 ..	7 6
inferior.... "	3 0 ..	6 0	3 0 ..	6 0
Aleppy "	3 0 ..	6 0	2 6 ..	6 0
Madras .. "	2 6 ..	6 0	2 6 ..	4 6
Ceylon .. "	2 6 ..	7 8	3 0 ..	7 6
Cassia Fistula....per cwt.	12 0 ..	20 0	12 0 ..	20 0
Cocculus Indicus .. "	7 6 ..	8 6	7 6 ..	8 6
Colocynth, apple ..per lb.	1 2 ..	1 6	1 2 ..	1 6
Croton Seeds ....per cwt.	65 0 ..	67 6	65 0 ..	67 6
Cubebs .. "	95 0 ..	100 0	115 0 ..	0 0
Cumin .. "	41 6 ..	50 0	44 6 ..	47 6
Fenugreek .. "	8 0 ..	13 0	10 0 ..	13 0
Juniper Berries .. "	10 3 ..	10 6	10 3 ..	10 6
Nux Vomica .. "	6 0 ..	11 0	6 0 ..	10 0
Tamarinds, East India.. "	8 0 ..	13 6	5 6 ..	13 6
West India .. "	10 0 ..	13 0	10 0 ..	13 0
Vanilla, large per lb.	27 0 ..	33 0	30 0 ..	32 6
inferior .. "	13 0 ..	25 6	29 0 ..	29 6
GINGER, Preserved .. "	0 5 ..	0 7	0 5 ..	0 7
HONEY, Chili per cwt.	50 0 ..	62 0	49 0 ..	61 0
Jamaica .. "	30 0 ..	50 0	35 0 ..	45 0
IPECACUANHA per lb.	4 8 ..	5 8	4 2 ..	5 0
ISINGLASS, Brazil.. "	2 3 ..	4 10	2 0 ..	4 8
Tongue sort .. "	2 6 ..	4 10	2 6 ..	4 10
East India .. "	1 1 ..	5 0	0 11 ..	5 1
West India .. "	2 8 ..	5 0	3 0 ..	4 13
Russ. long staple .. "	7 0 ..	10 0	7 0 ..	10 0
inferior .. "	0 0 ..	0 0	0 0 ..	0 0
Simovia .. "	2 3 ..	2 6	2 3 ..	2 6
JALAP, good..... "	1 1 ..	1 2	0 10 ..	0 11
infer. & stems .. "	0 9 ..	1 0	0 7 ..	0 9
LEMON JUICE per degree	0 0½ ..	0 1½	0 0½ ..	0 1½
LIME JUICE.....per gall.	1 5 ..	1 8	1 5 ..	1 8
LICORICE, Spanish per cwt.	30 0 ..	36 0	31 0 ..	36 0
Licorice Root .. "	16 0 ..	23 0	16 0 ..	23 0
MANNA, flaky .. "	2 6 ..	4 6	2 6 ..	4 6
MUSK, Pod.....per oz.	10 0 ..	53 6	19 6 ..	57 0
Grain .. "	30 0 ..	65 0	36 0 ..	65 0
Yunnan..... "	23 0 ..	38 0	32 0 ..	41 0
OILS (see also separate list)				
Almond, expressed per lb.	1 3 ..	0 0	1 3 ..	0 0
Castor, 1st pale "	0 3½ ..	0 3½	0 3½ ..	0 3½
second .. "	0 3½ ..	0 3½	0 3½ ..	0 3½
Cod Liver per gall.	3 9 ..	4 6	4 6 ..	4 9

	Last Month				This Month			
	£	s.	d.		£	s.	d.	
Essential Oils:								
Almond.....per lb.	28	0	0	to	28	0	0	to
Anise-seed, star..	8	3	0		8	3	0	
" German ..	10	9	0		10	9	0	
Bergamot	9	0	0		9	0	0	
Cajeput.....per bottle	3	9	0		3	9	0	
Caraway.....per lb.	2	6	0		2	6	0	
Cassia	4	0	0		4	0	0	
Cinnamon.....per oz.	7	6	0		7	6	0	
Cinnamon-leaf ..	0	2½	0		0	2½	0	
Citronelle	0	3½	0		0	3½	0	
Clove	6	9	0		6	9	0	
Lavender Exot...per lb.	1	6	0		1	6	0	
Mitcham ..	130	0	0		130	0	0	
Lemon.....	6	9	0		6	9	0	
Lemongrass.....per oz.	0	3	0		0	3	0	
Neroli	7	0	0		7	0	0	
Nutmeg	0	5½	0		0	5½	0	
Orange.....per lb.	7	3	0		7	3	0	
Otto of Roses.....per oz.	15	0	0		15	0	0	
Patchouli	2	0	0		2	0	0	
Peppermint:								
American.....per lb.	12	6	0		12	6	0	
(H. G. Hotchkiss),	14	6	0		14	6	0	
English	30	0	0		30	0	0	
German	1	6	0		1	6	0	
Rosemary	1	6	0		1	6	0	
Sassafras	2	6	0		2	6	0	
Spearment	13	0	0		13	0	0	
Thyme.....	1	8	0		1	8	0	
Mace, expressed ..per oz.	0	0	0		0	0	0	
OPUM, Turkey.....per lb.	20	0	0		20	0	0	
inferior	17	0	0		17	0	0	
QUASSIA (bitter wood) per ton	90	0	0		90	0	0	
RHUBARB, China, good and fine	3	0	0		3	0	0	
Mid. to fair.....	1	8	0		1	8	0	
Ordinary	0	9	0		0	9	0	
ROOTS—Calumba.....per cwt.	41	0	0		41	0	0	
China	23	0	0		23	0	0	
Chiretta	0	9	0		0	9	0	
Galangal.....per cwt.	21	0	0		21	0	0	
Gentian	18	0	0		18	0	0	
Orris	50	0	0		50	0	0	
Pellitory	55	0	0		55	0	0	
Pink	0	8	0		0	8	0	
Rhatany	0	4	0		0	4	0	
Seneca	2	7	0		2	7	0	
Snake	1	0	0		1	0	0	
SAFFRON, Valencia ..	50	0	0		50	0	0	
SALEP	100	0	0		100	0	0	
SARSAPARILLA, Lima per lb.	0	4½	0		0	4½	0	
Guayaquil	1	4	0		1	4	0	
Honduras	1	5	0		1	5	0	
Jamaica	1	6	0		1	6	0	
SASSAFRAS.....per cwt.	4	0	0		4	0	0	
SCAMMONY, Virgin ..per lb.	25	0	0		25	0	0	
second & ordinary ..	10	0	0		10	0	0	
SENNA, Bombay	0	1	0		0	1	0	
Tinnivelly	0	4½	0		0	4½	0	
Alexandria	0	0	0		0	0	0	
SPERMACETI, refined ..	1	3	0		1	3	0	
American	1	0½	0		1	0½	0	
SQUILLS.....	0	1	0		0	1	0	
GUMS.								
AMMONIAC drop .. per cwt.	1	10	0		1	10	0	
ANIM, fine washed ..	18	15	0		18	15	0	
sorts	10	10	0		10	10	0	
ARABIC, pale picked ..	1	16	0		1	16	0	
sorts, md. to fin. ..	1	13	0		1	13	0	
TURKEY, pick. gd. to fin.	6	10	0		6	10	0	
second & inf.	3	0	0		3	0	0	
sorts	2	2½	0		2	2½	0	
ASSAFETIDA, em. to fin	0	11	0		0	11	0	
BENJAMIN, 1st & 2nd ..	16	0	0		16	0	0	
COPAL, Manila.....per cwt.	18	0	0		18	0	0	
Angola, red.....	0	0	0		0	0	0	
DAMMAR, pale	90	0	0		90	0	0	
EUPHORIUM	38	0	0		38	0	0	
GALBANUM	0	0	0		0	0	0	
GAMBOGE, pkd. pipe per cwt.	28	0	0		28	0	0	
GUAIACUM	1	0	0		1	0	0	
KINO.....	0	0	0		0	0	0	
KOWINE, sorts	47	0	0		47	0	0	
selected	100	0	0		100	0	0	
MASTIC, picked.....per lb.	2	6	0		2	6	0	
MYRRH, gd. & fine per cwt.	195	0	0		195	0	0	
ord. to fair.....	75	0	0		75	0	0	
OLIBANUM p. drop ..	63	0	0		63	0	0	
amber & ylw.	50	0	0		50	0	0	
SENEGAL	40	0	0		40	0	0	
SANDARAC	80	0	0		80	0	0	
SHELLAC, Orange ..	160	0	0		160	0	0	
Liver	135	0	0		135	0	0	
THUS	0	0	0		0	0	0	
TRAGACANTH, leaf ..	240	0	0		240	0	0	
in sorts	40	0	0		40	0	0	
OILS.								
SEAL, pale	£	s.	d.		£	s.	d.	
yellow to tinged ..	24	0	0		24	0	0	
brown	23	0	0		23	0	0	
SPERM.....	61	0	0		61	0	0	

	Last Month				This Month			
	£	s.	d.		£	s.	d.	
Oils, continued:—								
BODY	0	0	0		0	0	0	
God	32	0	0		32	10	0	
WHALE, South Sea, pale ..	28	0	0		28	0	0	
yellow ..	27	0	0		27	0	0	
brown ..	22	0	0		22	0	0	
East India, Fish ..	0	0	0		0	0	0	
OLIVE, Galipoli.....per ton	0	0	0		0	0	0	
Gioja	0	0	0		0	0	0	
Levant	38	0	0		35	0	0	
Mogador	34	0	37	0	35	0	0	
Spanish	38	0	0		35	11	0	
Sicily	39	0	40	0	37	0	0	
COCOANUT, Cochin..	31	10	0		30	11	0	
Ceylon	28	5	0		28	5	0	
Mauritius ..	28	5	0		28	5	0	
GROUND NUT AND GINGELLY:								
Bombay	0	0	0		0	0	0	
Madras	0	0	0		0	0	0	
PALM, fine.....	31	0	31	11	31	0	31	11
LINSEED	25	10	25	15	25	5	25	12 6
RAPESEED, English, pale ..	29	15	0		29	15	0	
brown	27	15	0		27	15	0	
Foreign, pale ..	0	0	0		0	0	0	
brown	0	0	0		0	0	0	
COTTONSEED	24	10	25	0	24	5	24	10
LARD	55	0	56	0	58	0	61	0
TALLOW	28	0	44	0	28	0	44	0
	£	d.	£	d.	£	d.	£	d.
TURPENTINE, American, cwt.	32	6	0		30	0	0	
PETROLEUM, refined, per gall.	0	8½	0	6½	0	6½	0	7
Spirit	0	8½	0	9½	0	8½	0	9
SEEDS.								
CANARY.....per qr.	0	0	0		0	0	0	
CARAWAY, English per cwt.	0	0	0		0	0	0	
German, &c.....	25	0	30	0	0	0	0	
CORIANDE	15	0	22	0	0	0	9	0
HEMP.....per qr.	34	0	40	0	0	0	0	
LINSEED English	60	0	68	0	60	0	68	0
Black Sea & Azof ..	49	6	0		48	0	48	6
Calcutta	48	6	0		47	6	0	
Bombay	49	6	0		49	0	0	
St. Petersburg ..	47	0	0		47	0	0	
Mustard, brown, per bshl.	8	0	13	0	8	0	13	0
white ..	7	0	10	0	7	0	10	0
POPPY, East India, per qr.	48	6	49	6	47	0	0	
SPICES.								
CASSIA LIGNEA ..per cwt.	38	6	0		36	0	0	
Vera	28	0	34	0	28	0	34	0
Buds	48	0	40	0	53	0	0	
CINNAMON, Ceylon:								
1st quality.....per lb.	1	3	2	3	1	3	2	3
2nd do.	1	1	2	0	1	1	2	0
3rd do.	0	10	1	6	0	10	1	6
Tellicherry	0	0	0		0	0	0	
Chips	0	5½	0	5½	0	2½	0	5½
CLOVES, Penang ..	1	11	2	6½	1	10	2	0
Amboyna	1	5	1	8	1	5	1	7
Zanzibar	1	0	1	1	0	1½	1	0½
GINGER, Jam., fine per cwt.	100	0	240	0	100	0	240	0
Ord. to good	45	0	90	0	44	0	90	0
African	23	0	0		22	6	0	
Bengal	19	6	20	0	19	6	20	0
Malabar	23	6	24	0	23	6	24	0
Cochin	26	0	100	0	27	0	105	0
PEPPER, Blk, Malabar, per lb.	0	5½	0	5½	0	5½	0	5½
Singapore	0	5	0	5½	0	5	0	5½
White	0	7	0	0	0	6½	0	7½
Cayenne	0	9	1	7	0	9	1	7
MAC, 1st quality ..	1	6	2	7	1	8	2	6
2nd and inferior ..	1	2	1	5	1	2	1	7
NUTMEGS, 78 to 60 to lb.	2	10	4	0	2	10	4	0
90 to 80 ..	2	6	2	9	2	6	2	9
132 to 95 ..	2	1	2	5	2	1	2	5
PIMENTA	0	5½	0	5½	0	5½	0	5½
VARIOUS PRODUCTS.								
COCHINEAL—								
Honduras, black ..per lb.	0	0	0		0	0	0	
" silver ..	0	0	0		0	0	0	
Mexican, black....	1	9	1	10	1	8	1	9
" silver ..	0	0	0		0	0	0	
Teneriffe, black ..	1	8	2	6	1	8	2	6
" silver ..	1	8	1	10	1	8	1	10
INDIGO, Finest Bengal....	8	0	8	3	7	2	7	8
Guatemala Flores ..	7	0	7	1	6	9	7	0
SOAP, Castile.....per cwt.	28	0	0		25	0	0	
SOY, China	1	11	2	9	1	11	2	0
TERRA JAPONICA—								
Gambier	17	9	18	0	17	6	17	9
Free cubes	25	0	25	0	25	0	25	6
Cutch	22	0	35	0	21	0	36	0
WAX, BEES, English ..	£	s.	£	s.	£	s.	£	s.
Jamaica	5	10	6	15	5	10	6	15
East India	5	15	6	10	5	15	6	10
VEGETABLE, Japan	2	12	2	13	2	9	2	11
WOOD, DYE, Bar.....per ton	4	15	0		4	15	0	
Brazil	12	0	40	0	12	0	40	0
Cam	15	0	24	0	15	0	24	0
Fustic, Cuba	0	0	0		0	0	0	
Jamaica	5	0	5	7/8	5	0	5	7/8
LOGWOOD, Campeachy,,	7	10	9	0	7	10	9	0
Jamaica	5	0	5	12/6	5	0	5	12/6
LIMA, 1st pile	13	0	13	10	13	0	13	10
RED SANDERS	6	15	5	17/6	5	15	5	17/6



PHYSICIANS AND HOMŒOPATHS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Empiricism in excelsis.—Straining at a gnat and swallowing a camel.

SIR,—In the *Globe* of Tuesday, March 19, we read—"It seems that, for the asthmatic affection, his lordship" (Lord Beaconsfield) "derived the greatest comfort from *Himrod's powder*, which was recommended to him by Sir Philip Rose. He last inhaled it at one o'clock this morning, and seemed to derive comfort from it."

Allow me to ask the President of the Royal College of Physicians, through your paper, Who is Himrod? What is his powder? Did Sir William Jenner, Drs. Quain, Kidd, and Bruce, consult with Sir Philip Rose, who does not, I believe, hold any medical degree?

Finally, on what possible ground do the "regular" faculty accept the *secret remedy* of a quack, and *sancion* its administration, while they reject, with scorn, the well-known remedies of the British Homœopathic Pharmacopœia?

One thing alone appears certain in medical ethics, as sanctioned by the College of Physicians, that, when all the remedies in its Pharmacopœia fail to relieve a patient, the next resource of that learned body is to turn to *secret, quack remedies*, rather than to those afforded by Hahnemann and his followers. Is not this "empiricism in excelsis"?

Homœopathic remedies, we know, have been experimentally proved (tried) upon healthy individuals before they are administered to the sick. The effects they produce, physiologically, become a guide as to the tracts of the body on which the drugs so given act, and as to the diseases they are likely to cure. But all this knowledge of Hahnemann and his followers is not only thrown away on the College of Physicians, but we are told by Sir William Jenner and other learned pundits that such knowledge disqualifies those who have looked into it and believe in it from so much as touching the hems of the garments of regular physicians.

WILLIAM BAYES, M.D.

PATENT MEDICINES.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—With your kind permission I should like to lay before my brethren a few more remarks on the patent medicine question, believing that, although much has been said, it is still far from being an exhausted subject.

Before doing so I will state what our local association has done, and what has been the result of their action.

At our monthly meeting in March the patent medicine question was specially appointed for discussion, and after the subject had been well debated it was generally expressed that it was one of such an intricate and such an important character that it was worthy of being made the subject of a West Riding meeting, and that only from such a gathering could any substantial results be obtained in the way of combined action and in the enunciation of a feasible plan.

In accordance with this opinion a resolution was carried, on the proposal of the President, Mr. Shaw, and seconded by the Vice-President, Mr. Farr, "That letters be sent to a number of the chemists in the West Riding, asking if they would join in promoting such a gathering."

As secretary, I at once acted on this resolution, and forwarded 110 circulars, as evenly distributed over this large area as I could. I received ten replies in opposition to such meeting, and 15 in favour of it, while 85 whom I addressed were so deficient in courtesy or sunk into such apathy that they could not reply.

I scarcely need say that after this the members of the Halifax Chemists' Association decided to let the matter drop, and yet there is a necessity for such a meeting, not only to consider the patent medicine question but also the clauses of the Amended Pharmacy Bill, the working of which will, I think, do more harm than good to the business. But with regard to the patent medicine question there only now remains the plan to pursue that I sketched in your paper of November last, viz., active opposition, and so thorough and so universal as to bring immediately under the cognisance of the proprietors that, having lost the profits, we would not "even indirectly" encourage the sale. To do this every chemist should refuse any bills that are offered, and should remove from his windows any advertisements that are attached. Our goods will look all the more respectable from going out in plain paper, and plain paper is cheap enough, and the windows, as I know from my own, will look much cleaner and more imposing if the gilt advertisements of patents are scraped off.

I would advise to go even further, and remove from the windows all patents, and cease giving to tramps such books as Fenning's, Rooke's, &c. They sell them and thus induce purchases. Let us do the thing right: it will all the sooner produce some results, for we must remember that the patent we sell is most likely taken in place of some drug from which we could have a proper profit.

Some of my brethren say, "But if the trade turns hostile to the proprie-

tors, they in return will get some other class of tradesmen to sell their preparations." I say this is nonsense. What number of tradesmen will deal in such business at 5 or 10 per cent. profit when it is so easy to make had stock? As I have said before, we have mainly made the patent trade, and although we cannot obliterate the trade, we can bring it below the remunerative point if we will only act together.

I have not one word to say against the proprietors, nor do I think they should have one word to say against us. Hitherto we have acted in harmony, because our interests were identical; now our interests are opposed, and our future action must have that tendency.

I should have preferred an amicable understanding with the proprietors, and with that view sketched a plan in your January number; but I find that the trade cannot raise itself up to that platform. It lacks energy and cohesion; it cannot create and work a widespread organisation. We must, therefore, take our stand on even ground and destroy the cut patents. One great means also to this end will be for as many of us as possible to produce preparations of our own, maintain the price, try to elbow out other patents, and those chemists who do not care to be small proprietors lend their countenance to those who do.

We cannot commit a greater mistake than in looking either to Parliament or to the Pharmaceutical Society for help in this matter. The Society considers it *infra dig.* to bother about mere trade matters, and Parliament is too strongly imbued with free-trade notions to pass any Bill whose real intention, however this may be glossed over, is to benefit one class. I should like the clauses of this Amended Pharmacy Bill to be well debated by the trade: they have a most important bearing upon our interests. With regard to the widows' clause I think it cruel, and would never have been acted upon but for the consistency we want in attacking the stores. Proud as Bloomsbury Square is, it can be mean when it has a purpose in view.

With regard to the poison clause, I think this will be a daily annoyance and loss. It will also fail in its object. It is professedly drawn for public safety, but its real object is to give the trade a monopoly in the sale of certain patents. But the wisecracks of the Square seem to forget that patents are cut by members of the trade as severely as by people outside. This clause will not affect them, and the cutting will remain. But it may be said the word "poison" on the patent will lessen the public demand. Just so; but will it not also lessen the public demand for preparations of the chemist? Let any chemist run his eye over the schedule, and then consult his recipe-book, and see in how many cases this clause will act injuriously. I will give an example. I have a large sale for an essence which is very liable to fermentation, to prevent which I first tried glycerine, then spirit, vini rect., but I found a few drops of chloroform acted better than either, and was much cheaper; but suppose this clause becomes law, I must label this essence "poison," because it is a stamped preparation; and then I do not think the public would buy another bottle, or I must return to glycerine or spirit, which would involve me in unnecessary loss. Chloroform is only slightly miscible in aqueous solutions. The essence can only contain an infinitesimal quantity, anyone might swallow a bottleful without injury, and yet it is to be labelled "poison." I could give further examples, but surely this is enough to show that the clause is a two-edged sword, which will do us more harm than good. What I should like the Pharmaceutical Society to do is to let the patent medicines alone, and leave us to fight it out our own way.

The sooner we recognise this fact the better, viz., that if ever we successfully overcome the patent medicine difficulty it will be from our own energy. "God helps those that help themselves," and we cannot be too careful in calling in the aid of restrictive laws.

Trusting you will excuse me occupying so much of your space,

I am, yours truly,

64 Northgate, Halifax.

W. C. HEBDEN.

Letters from Messrs. Smith (Woodford) and Reckless (Ashbourne), on the patent medicine question, are declined, because their illustrations partake of the nature of advertisements.

J. H. (36/178) There is no legal objection for a grocer to put coloured show bottles in his window.

99/9. Dispensing Query.—W. H. T. writes:—The following prescription, written by a dentist, was brought to me to dispense. Should the B.P. 1 quor be used? The "Pocket Formulary" mentions a lotio sodæ chloratæ made with fiss liquor to 3ij aqua:—

"Solution of chlorinated soda 3ij .

Take a little into the mouth and keep there a minute or two; do not swallow."

Answer.—In Stocken's "Deutal Materia Medica and Therapeutics," page 177, we read as follows:—"Externally solution of chlorinated soda is a stimulant, astringent, antiseptic, and deodoriser; it is best applied in the form of lotion (1 part to 10 or 15 parts of water)."

The liquor seems never to be used as a lotion or gargle until it has been diluted with at least eight times its bulk of water, so we should be inclined to follow the "Pocket Formulary." The Dental Hospital of London Pharmacopœia contains a gargarisma sodæ chloratæ, made by mixing two drachms of the liquor to a pint of water.

180/42. W. H. B. would be glad to know of an inexpensive work on the anatomy of the foot, illustrated.

Inquirer (52,180).—Registered dentists may, if they please, claim exemption from jury service, but they must make their claim when the lists are published, if such lists include their names. The lists are suspended at church-doors during the month of September.

C. F. S. (Littlehampton).—Registration.—Such a word as "Floriline" cannot be registered under the Trade-marks Act, nor in any way unless it was in use before the passing of the Act. The word may be embodied with other things in a fanciful design, and the design may be registered; but this gives no legal rights not enjoyed before. Registered or not, the law gives you a remedy against anyone who puts up his goods in such a way as to lead the public to believe that they are of your manufacture. The limits of this "colourable imitation" are not strictly defined, and they are extended rather in favour of the original owner than in that of the second comer. A good article on trade marks is printed in this number.

18252. R. R. R.—Carbolic Acid.—There is no really effectual way of covering the colour of carbolic acid. Peppermint oil, and the oils of the lemon group, and citronella have been used, and disguise the smell to a certain extent. The essential oil must be nearly or quite equal in bulk to the carbolic acid.

18193. Z.—Sale of Food and Drugs Act.—Under this Act any person may purchase an article of food or a drug in any place, and have it analysed by the public analyst of the district on payment of a fee not exceeding 10s. 6d. The purchaser must tell the vendor that he intends to have it analysed, and offer to divide the article into three parts, each part to be marked and securely sealed or fastened up. One of the three parts must be offered to the vendor, one retained, and one sent to the analyst. If the vendor refuses the proffered part, the article must be divided into two parts, one retained, and one sent to the analyst. The person causing the analysis to be made may take proceedings for the recovery of the penalty imposed for the offence.

INDIAN OPIUM.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Although in his letter of 8th ult., addressed to you, Mr. Mason actually declines to have any more correspondence upon the above subject, I cannot possibly comply with his wish, because his said letter contains some fresh inconsistencies with truth, which I feel bound to correct, both in your readers' and my own interest.

Mr. Mason has the kindness to remind me of certain imports of mine of Indian opium, made some ten years ago, shortly before my leaving Liverpool, which imports he pretends that "I was very anxious to get rid of at any price," while only a few lines further on he actually ridicules the idea of my now asking 25s. per lb. net in London for my Patna.

Thus I am held up to your readers as alternatively "too low" and "too high" in my business principles, while I can assure you that "small profits and quick returns" has ever been, and ever shall be, my motto. Mr. Mason's pretended anxiety on my part at that time simply reduces itself to a very few samples supplied to the late Mr. W. H. Hawkins at very much the same prices as now, with the only difference that Patna then was about 1s. per lb. cheaper than Malwa.

In reply to Mr. Mason's utterly confused statements with respect to Indian opium, I have to assure your readers, in the first instance, that I know absolutely nothing and never did know anything about any monopoly on the part of the Chinese with regard to opium of any growth. In his extraordinary quickness of picking up book knowledge, Mr. Mason must have made a sad mistake between the recently so-much-talked-of "monopoly on the part of the Indian Government to grow the drug" and this purely imaginary "Chinese monopoly" of his own creation.

The periodical Government sales of Indian opium are and always were perfectly open to any buyers from any part of the globe, and the simple fact is, that the Chinese are not only the chief buyers of it, but—owing to its superiority from their point of view—it also keeps its value so much above the average price of Turkey or Persian, that for morphia manufacturers it will never pay, just as little as it would ever do to distil alcohol from a fine claret or Burgundy.

On the other hand, Indian opium is remarkably suited for tincture purposes, so that with the first return to higher prices for the Turkey drug I confidently look forward to an increasing demand from the Fen districts, its cost being the only obstacle in its way just now.

I really am at a loss to understand what Mr. Mason possibly could mean by his "Eastern opium of any real value," because it is well known enough that the Indian opium is quite remarkable for its uniformity throughout each season's produce, it being the acknowledged study of the two great Government farms to keep to a certain given standard, as being the safest means of upholding their long-established reputation on the Chinese markets.

I am really amused to see Mr. Mason come out so unexpectedly with the result of his researches of some ten years ago respecting the indirectly-purchased samples of my then imports of Indian opium, but as to his figures of 2 to 3 per cent. and 6 to 7 per cent. he must kindly excuse me if I range the same upon an equal footing with his Chinese monopoly, and therefore simply recommend your readers to reverse these as between morphia and narcotine, when they will find themselves approximately right as to one, at

least of these Indian qualities. Your readers are left perfectly in the dark by Mr. Mason as to whether his figures refer to either Malwa, Patna, or Benares, but, from his highly scientific point of view, perhaps it does not matter much, it being just possible that he may have experimented only upon the next to valueless Patna or Benares shells.

I am truly sorry to see that Mr. Mason considers it a *quasi* insult that I should claim the pleasure of knowing him personally, but thanks to certain indelible phrenological impressions of mine involuntarily received at the time, my recollection of the fact of having not only seen him but also spoken to him on his present employer's premises is as vivid as if it had happened only a few months ago, thus fully making me believe that I could recognise him again if ever he was to appear at our head-quarters for the drug.

By special desire I do not dwell on Mr. Mason's most peculiar reference, by which he thinks he can establish his claim to practical knowledge of the value of opium, while I think your readers now are fairly in a position to form their own opinion in this respect.

Is it not most characteristic that, while publicly complaining of not having been furnished with samples of my latest imports of Indian opium asked for even before their arrival, Mr. Mason should all this time have had at his disposal the result of his investigations of ten years ago of samples indirectly obtained at the time? Perhaps at this stage your readers will agree with me that my faint allusion to "family spite" was not altogether without reason, though from the very first put down by me as "second-hand family spite" only.

In conclusion I have to give expression as yet to my utter surprise at seeing Mr. Mason make use of the word "abuse" with reference to anything that has to receive your approval before it could appear at all in your valuable periodical.

As to sarcasm, I venture to advise Mr. Mason to desist in future from such uncalled for "blue-bottle" attacks upon perfectly harmless advertisements, when he will find that nobody will even think of touching that dangerous tap of sarcasm which in this instance he was the first to turn on, but which in pure self defence I managed perhaps to turn on somewhat fuller upon him.

Regretting that I should have been compelled to waste so much of your valuable space,

I remain, sir, yours respectfully,

110 Cannon Street, London,
May 11.

H. HENRY SULTZBERGER.

P.S.—I was nearly going to forget to say that, in accordance with his desire, I am quite disposed to do full justice to Mr. Mason by giving his letter of 8th ult. precisely the same publicity as to my own vindication of March 9.

1818.—*Chemists*.—Unguentum Acidi Chrysophanicum is prepared, according to Squire, by heating together over a water-bath one or two drachms of chrysophanic acid with 1 oz. of lard, and then stirring till cold. It communicates a deep and lasting purple stain to the linen. The Committee on the Revision of the United States Pharmacopœia recommend the following form:—

	Parts
Chrysophanic acid	10
Paraffin oil (sold as "spindle" oil)	70
Yellow wax	30

Add the chrysophanic acid to the paraffin oil contained in a flask, and heat the mixture on a sand-bath to a temperature not exceeding 120° C. or 246° Fahr.; then strain it through linen with strong expression into the wax previously melted, and stir the mixture constantly while cooling.

The two published formulæ for *Acetum Ipecacuanhæ* were reprinted on page 86 of our last volume. Ferris & Co. macerate 1 oz. of bruised ipecacuanha in 1 pint of dilute acetic acid for 8 days, express and strain. Dr. Dyce Duckworth recommends the following:—Macerate 1 oz. of bruised ipecacuanha with 1 oz. of acetic acid for 24 hours, pack in a percolator, and pour distilled water gradually over it till 1 pint of the percolate is obtained. Dose, 10 to 15 minims; as an emetic, ½ oz. The *Oxymel* may be made by mixing 1 pint of the acetum with 2 lbs. of honey, and evaporating to a proper consistence.

18146. *Gold Fluid for Itch*.—*Country Chemist*.—We know no preparation of this name, but a solution of a compound of sulphur and calcium, which you say the gold fluid is composed of, is commonly used in Austria as an external remedy for itch or scabies. It is called *Solutio Calcii Oxysulphurati* and *Solutio Vlemineckx*, made thus:—

Calcii oxysulphurati	50
Sensim immissa in	
Aquæ bullientis	600·0
Inter assiduum agitationem coquantur ad colaturæ, 200·0.	
Serva in lagena optime clausa.—Hager.	

Calcium Oxysulphuratum of the Ph. Austr. is thus made:—Thirty parts of quicklime are slaked with 20 parts of water, and mixed with 60 parts of sublimed sulphur. The powder must be preserved in a well-stopped bottle.

177/44. *F. W. F.*—You had better inquire about thermometers of F. Darton & Co., 45 St. John Street, West Smithfield. See advertisement pages.

Santonine.—*F. W. F.* writes:—"Will any reader state the cause of the bitterness found in santonine that has been exposed to sunlight, and what decomposition takes place by such exposure?"

"Santonine forms crystals of the orthorhombic system, melting at 176° , which are inodorous, but have a bitter taste, especially when dissolved in chloroform or alcohol. They are colourless, but when exposed to daylight, or to the blue or violet rays, but not to the other colours of the spectrum, they assume a yellow hue and split into irregular fragments. This change, which takes place even under water, alcohol, or ether, is not accompanied by any chemical alteration."—*Pharmacographia*, second edition, p. 389. The crystals are bitter before they are exposed to light, so the bitterness is not caused by the exposure.

3125. *W. B. C.*—**Syrup Phosphoric Acid**, sp. gr. 1.75, contains 64.5 per cent. P_2O_5 , and 83.85 per cent. $P_2O_5 + 3H_2O$.—*Fr. Hoffmann, Man. Chem. Anal.* (1873), p. 101.

181/34. *Nemo.*—We have never published a formula for cold cream containing white vaseline. The correspondence on cold cream runs through the December, January, and March numbers.

178/60. *G. W. O.* would be glad of a formula for Liquor Copaihiæ Co., cum Buehu et Cubehâ.—We cannot find that any formula has been published. It has been asked for more than once, and we shall be glad if any reader can supply it.

POLITICS AND PHARMACISTS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—May I suggest to you that in view of the great importance of commercial legislation to the trading classes, it would be very desirable in the next edition of the *Diary* to include a list of the members of the House of Commons with the constituencies represented by each, and if you could find room to add a table of some of the more important Acts relating to trade matters, such as the "Limited Liability Companies Acts," &c., or others, showing how the present members voted on such occasions, tradesmen might be led to take a greater interest in such matters than they seem to do at present.

I am, yours obediently,

Gallowtree Gate, Leicester,
May 11.

"NEMESIS."

J. C. M. asked last month for a formula for *Stokes's Liniment*. Mr. A. MacIver, of Dingwall, kindly furnishes the following:—

Vit. ovi	No. i.
Ol. terebinth	3ij.
Acid pyrolign.	3v.
Aq. rose	3ij.
Ol. limonis	m. xxx.

Mysax (70/179).—We are sorry that your moustache is not quite so heavy as you would like it to be. Perhaps if you were to live in a forcing-house for a few weeks, and apply superphosphates, the trouble might be remedied.

WHO SHALL ATTEND SURGICAL CASES?

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I became acquainted the other day with a little act of kindness by one of our extra learned members of the medical profession. I was called out to a soda-water manufactory, one of the workmen having sustained an accident by the bursting of a bottle, which had cut one of the arteries of his left arm. I said Dr. ——— had better be sent for, as I knew he had great objection to us shopkeepers acting the part of surgeons. In the meantime I proceeded to tie up the artery, and had just managed to do it satisfactorily, when the messenger returned with the message from Dr. ——— that "he could not come, they had better take the man to the hospital." Just about far enough to bleed the man to death.

I am, &c.,
H. A.

WHO SUPPLIES GROCERS WITH DRUGS?

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—It may interest some of your readers to know that Messrs. ——— issue a list specially compiled for grocers, and probably any other tradesmen who wish to add pharmaceutical preparations to their collection.

The following are taken from price-list which is arranged alphabetically, commencing with acid (aetic), and ending with wax (white):—

- Antimonial wine, 2-oz. bottles, 3s. 6d. doz.
- Opium liniment, 2-oz. stoppered bottles, 10s. doz.
- Gregory's powder, 4-oz. bottles, 6s. doz.
- Syrup, "Easton's," 4-oz. stoppered bottles, 11s. 6d. doz.

Yours faithfully,
J. J. JACKSON.

Hereford, April 30.

[In the above letter our correspondent inserts the name of the firm. We have reason to believe that four or five London firms do the kind of business described, and therefore we can hardly feel justified in singling out an individual house. Still, we think it desirable to draw attention to the practice, and to show that it is under observation.—ED. C. & D.]

THE BUOTT FUND.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—May I again request a little space to acknowledge the result of my last appeal on behalf of old Mr. Buott, and to express my sincere thanks, and his also, for the generous help afforded him? The seven first items on the annexed list are parts of the sum received before I pleaded in my last letter for 19 promises of one shilling a week to add to my own weekly dole. To this latter appeal I have received about 12 most willing responses, and also several sums which have enabled me to pay weekly to Mr. Buott's daughter—who is constant in her attendance on her father—12s., and sometimes 15s. It has been necessary to give the larger sum several times, at the poor old gentleman has been seriously ill. He is still confined to his bed, and is extremely feeble, and I am afraid he will not "get about" again.

I trust that his friends will enable me to continue the grateful help thus far afforded him, so that the few days or weeks that remain to him may be blessed with the dew of heaven-sent kindness.

205 St. John Street Road, E.C., May 10.

ROBERT HAMPSON.

	£	s.	d.
George Harvie, Helensburgh	0	5	0
Jonathan Jessop, Halifax	0	5	0
E. N. Butt, London	1	1	0
Warnick Brothers, London	2	2	0
Thomas Hyde Hills, London	2	0	0
A Friend, S. C. B.	0	5	0
J. C. Akester, Hull	0	2	0
John Otley, Sheffield	0	13	0
Elizabeth Leech, Fulham	0	15	6
R. H. Foster, Dover	0	2	6
J. Hinds, Coventry	0	13	0
"Bolton," per Wm. Blain, Bolton	0	13	0
Wm. Blain, Bolton	0	13	0
Four Bolton Chemists, subscribed by them at a dinner	1	3	6
Dr. Kermot, Hastings	0	5	0
J. Edishury, Liverpool	1	0	0
John Woodland, London	1	6	0
L. Tompsett, Manchester	0	15	0
H. D. Anderson, Guernsey	0	15	0
A Friend, Guernsey	0	1	0
C. B. Miller, Blackheath	0	15	0
R. M., London	0	13	0
Benjamin Whitlow, Exmouth	0	13	0
A. W. Gerrard, London	0	5	0
Robert Hampson, London	0	13	0

180/66. *F. W.* will find a list of London docters and their specialties on page 160 of our current *Diary*.

180/62. *Chemist*.—No longer ago than last December (page 546) we published notes from two correspondents giving their experience of **Starch Gloss**. Both found that powdered borax sold well and gave satisfaction. Of course a polishing-iron, and not a mere heater, should be used.

179/93. *W. H. T.* remarks that some of his customers use Judson's violet dye as a cheap **Hectograph Ink**, but it will not print more than about 40 copies.

179/18. *W. W.* wishes for good formulae for custard-powder and egg-powder. [Two formulae from Cooley were given on page 189 of our April issue.]

179/29. *B.*—In 1879 a correspondent wrote to us that there was an opening for assistants in South Africa, including Cape Colony and Natal. He thought six or eight a year would find engagements easily. No diploma is required by an assistant, but to open shop he must pass an examination before the Medical Board of the colony, or be connected with the Pharmaceutical Society of Great Britain. Sir Bartle Frere in his lecture on South Africa, delivered last December, said that chemists made a profitable business there. The Editorial Note published in our December number will refer you to useful works on the colony. We have no more recent information.

179/22. *P. D. A.* wishes for a good formula for **Composition Essence**, for colds, &c., with directions.

179/19. *Chemist* (Sheffield).—**Hoffmann's Anodyne Tincture**—**Liquor Anodynus Mineralis Hoffmanni**—was originally made by distilling spirit with sulphuric acid. It is still official in the German Pharmacopœia under the name of "spiritus æthereus," and is made by mixing one volume of ether with three volumes of 90 per cent. spirit. Dose 10 to 30 or 40 minims on sugar.

Grey Nicker nut or seed, otherwise called **bonduc** seed and **semœn bonducelle**, is the seed of *Casalpinia bonducella*, Roxb., a leguminous Indian shrub. For a full account of it see *Pharmacographia*, 2nd edition, p. 211. The powdered kernels are used in India against intermittent fevers and as a general tonic.

178/47, *J. O., Farnmouth*, would like to know what will remove the redness of his hands, caused by the effects of an explosion of gunpowder.

Aromatic Species, Species Aromaticæ, is also still official in the German Pharmacopœia. Its formula is as follows:—

	Parts
Peppermint	2
Rosmary leaves	2
Wild thyme	2
Sweet marjoram	2
Lavender flowers	2
Cloves	1
Cubebæ	1

The ingredients must be each separately finely cut and bruised, the fine dust removed, and then mixed. To be preserved in a close vessel.

In England the name **Species Aromaticæ** is sometimes applied to the **Species seu Pulvis pro Confectione Aromatica, P.L.**, which somewhat resembles **Pulvis cretæ aromat. P.E.** The formula of the P.L. is:—

Cinnamon	2 oz.
Nutmegs	2 oz.
Saffron	2 oz.
Cloves	1 oz.
Cardamom seeds	½ oz.
Prepared chalk	1 lb.
White sugar	2 lbs.

The ingredients are to be finely powdered, uniformly mixed, and kept in a close vessel. Each ounce of the powder is to be mixed with 2 drachms of water to make the confection when the latter is required for use.

THE EXCHANGE COLUMN.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I am afraid your valuable journal is being made the medium for a very respectable (?) system of swindling, and I think it high time something should be said on the subject. I refer to the advertising for sale of formulæ by individuals whose consciences cannot be of the tenderest description. I, along with several of my friends, have been—I was going to say robbed, but we will say—beautifully taken in by remitting stamps for some of these "valuable" recipes, and I more particularly refer to those advertised without either name or address, simply a number, and would caution my brother chemists and recommend them to have nothing to do with advertisers who are either afraid or ashamed to give their name and address; and I also think it would be advisable for the reputation of your journal—which, I am sure, is greatly appreciated in the trade—to refuse to insert any advertisements of this character unless name and address be added thereto.

I am, yours obediently,

M. J. BENTLEY.

Sheffield, May 9.

[Mr. Bentley's remarks are vague, and, we must all, rather unfair both to us and to some of our advertisers. We cannot guarantee the value of the formulæ advertised, but we have heard that some, at least, are worth their money. We have always been ready to investigate any alleged dishonesty if materials are given us, but Mr. Bentley tells us nothing we can act upon.—ED. C. & D.]

REVENUE EVASION IN AMERICA.

In our last, under the above heading, we inserted a paragraph, the statements in which were compiled from certain American journals. They were to the effect that Messrs. J. Hart & Co., of Kingston, Canada, bought American spirit at Peoria, Ill., U.S., at 38c. per gallon (the duty being remitted for export), took it to Kingston, and by collusion with the Customs officers there added some shellac, and reshipped it to U.S. ports as low-grade varnish, paying 50c. per gallon and 20 per cent. *ad valorem* duty. It was further alleged that their agents, on receiving, separated the gum from one lot and added it to another, thus getting in at very low duty a high grade varnish and a clean spirit. Messrs. Hart & Co. having seen our paragraph write to us, under date of April 26, characterising the statements as untruthful and slanderous, and they ask us to do them the justice of publishing a communication similar to one they have sent to certain U.S. journals, to the following effect:—

They say:—

"We are manufacturers of shellac varnishes, and as such are licensed by the Government of Canada to manufacture them in bond for exportation. Under these circumstances we can make spirit varnishes at a price low enough to permit the payment of the Customs duty on them when entering the United States, and at the same time successfully compete with their manufacturers. So far from our business being carried on by any fraudulent connivance with Canadian Customs officials, it is conducted entirely in accordance with the laws of our country, and our operations are under the constant supervision of an officer of the Inland Revenue Department, who has entire control of our premises, and who keeps a daily record of every transaction pertaining to the manufacture and exportation of these goods, and reports the same in due course to our Government.

"As to the statement that we are sending our goods into the United

States for the purpose of allowing the gum and spirit to be separated, thus procuring 'a crooked alcohol,' we desire to say that we have yet to learn that this can be accomplished by any other process than that of redistillation. For ourselves we can say neither we nor our agents (for we have none) have ever separated the gum and spirit in a gallon of our varnish, nor do we believe any purchaser of our goods has ever done so. The unprofitableness of such an undertaking is made apparent when we inform you that more alcohol can be extracted from a hushel of corn, costing say 50c., than could by any means we know of be taken from (two) 2 gallons of our varnish, costing the purchaser from \$2.25 to \$2.50 per gallon."

They go on to say that they never add less than 2½ lbs. of gum to the gallon of alcohol, and they claim that this is varnish and nothing else. They point out that they have openly advertised their varnish, and they assert that similar varnishes from Europe, &c., are imported into New York. They altogether deny anything fraudulent in the transactions.

They tell us that since they wrote the foregoing their varnish has been appraised in the New York Port, and that though it has resulted in raising the dutiable value about 10d. per gallon above the figures at which they had entered the seized goods, the grounds of that advance are not based on any charge of fraud, but merely because it was considered that they should have added a larger profit (for duty) to the cost of the manufacture. Messrs. Hart & Co. thus conclude:—

"Though this appraisal has been confirmed by the Board of Appraisers of New York City, it will not surprise you to learn that the Department at Washington refuses to abide by it, and now bars the way to our continuance of what is both a legitimate and straight business, by claiming that the duty-paid value of spirits in Canada should be the basis for estimating cost of spirit varnishes, instead of the bonded value.

"We need not inform you that, if foreign countries ruled in a manner similarly regarding American alcohol, the export thereof would be nil.

"Yours truly,

"JAMES HART & Co."

Mr. GREENISH has won an excellent reputation during his year of office as president of the Pharmaceutical Society, and no one better could be chosen to reign over the assembly of notables which is to be convened in London next August, under the title of the International Pharmaceutical Congress. But we must be permitted to express our hope that the rumour is incorrect which attributes to him the intention of delivering the following inaugural address:—

Mes chers Messieurs et Gentlemen, Meine Herren und Signori, Permettez moi, ich bitte, de vous faire voir my glory. Je suis le Président, Vorsitzer, Ganger, Boss, Hauptfigur, Of English pharmacy to-day, le doyen plein de vigueur, Ayez la bonté donc, Messieurs, de vous donner la peine De vous asseoir et de vous taire pendant que je m'explains. Ich bin, Sie wissen es recht wohl, in Deutschland oft gewesen, La France m'est parfaitement connue, its shores I love to gaze on. I know each hochgelehrte Herr from Mendeljeff to Roscoe, Twixt County Cork and St. Sophia, from Guadeloupe to Moscow. Die Pharmacie Verhältnisse der aller Welt to me Ne sont que telles que sont à vous votre ancien A B C. So cherchez-vous par tout le monde and tell me if you know A boss who'd better engineer t'is polyglottic show.

Now, liebe Freunde, guess we're going to have a bully time With pharmaceutical eloquence re-tored from Babel's prime. For instance, first we may expect to be enchanted by Sein hochberühmte Würdigkeit, Professor Kopf von Blei. Next, with the music of his tones thrilling us through and through, Suivra l'oraison magnifique de Monsieur Savoirtout. Then those who yet of learned talk may not have had enough Will have the chance of listening to the Dr. Nehrlieffoff. But the crowning intellectual treat we may be sure will be a Renewed discussion on the ænemenic pharmacopœia; For twenty years we've pegged away with well-assumed devotion At that revered, though oft-reviled, but venerable, notion. And we're not particly likely to let such a nest-egg go, For it's just the thing which keeps alive our polyglottic show.

Ho, white and black pharmaciens! Ho, miscellaneous crew! Ho, Catholic and Protestant, Mahommedan and Jew! Ho, chemical professors! Ho, pharmaceutical Kings! Come gather all of you beneath my cosmopolite wings. Come with your broken English, and with your Baedeker, And lovingly discuss with us about materia medica. Let Russia's grim professor grasp the hand of fiery Thrk, And Teuton lamb with Gallie wolf harmoniously work. And though the world may rave and rage and tear each other's hair, Let Shem and Ham and Japhet meet in peace at Bloomsbury Square. And when we've finished for a time our most momentous labours, And start to toast and glorify each man his noble neighbours, Be sure to let the eloquence and champagne freely flow To Thomas Greenish, President of t'is polyglottic show!

ZINCI OXYD. PUR.

(HARRIS'S),

GUARANTEED TO ANSWER ALL THE B.P. TESTS,
In 1 lb., 2 lb., 4 lb., 7 lb., 14 lb. and 28 lb. Boxes. Boxes Free.
1/- per lb.

SPECIAL QUOTATIONS TO LARGE BUYERS.

PLEASE NOTE—EVERY PACKAGE HAS OUR LABEL AND SEAL UPON IT.

KEPT IN STOCK BY THE FOLLOWING WHOLESALE DRUGGISTS:—

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Bastin, Alfred, Manchester.Whitehead, Holbrook & Co., Manchester.
Woolley, Sons & Co., "

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(CLOSE TO THE CATHEDRAL),

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Shipping Orders carefully and economically executed. Price List Free on Application.

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Approved by the Academy of Medicine of Paris, and other Medical Authorities in England and Abroad.

VITAL ENERGY, it is well known, depends upon the normal functions of the nervo-electric fluid governing the whole economy; any deficiency thereof in the system manifests itself, according to the locality, by a variety of troublesome ailments, such as

Indigestion
Liver Complaints
Neuralgia
Sciatica
Deafness
Writer's Cramp
Loss of Voice

Asthma
Bronchitis
Paralysis
Epilepsy
Rheumatism
Gout
Constipation

Local Debility
General Debility
Female Complaints
Mental and
Physical Weakness
Functional Disorders
&c., &c.

This is no conjecture, but an established scientific fact, and it must be admitted that PULVERMACHER'S GALVANIC CHAIN-BANDS, by supplying this electrical deficiency, constitutes Nature's most congenial curative in the ailments referred to, embodying a host of remedies in one.

Thirty years' successful experience has proved the marvellous remedial powers of these appliances, even in cases defying ordinary treatment.

PRICE

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A. NARROW CHAIN-BANDS for Sciatica, Rheumatic, Neuralgia, and Gouty Pains, Chronic Rheumatism, Local Paralysis, and Cramp in the Extremities, according to Electric Power.

5s., 10s. 6d., 15s., 18s., 22s., and 40s.

B. BROAD CHAIN-BANDS or BELTS for Lumbago, Indigestion, Liver, Chest, and Nervous Complaints, &c., wearable as a Belt.

22s., 30s., 40s., and 50s.

C. BROAD CHAIN-BANDS for Nervous Deafness, Head, Tooth, and Face Aches, and Noises in the Head

21s. and upwards.

D. BROAD CHAINS for Loss of Voice and other Affections of the Throat, Asthma, and Spinal Complaints

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For securing a Warm and Comfortable Application, free from possible counter-irritation, any of the above Band can be Felted, if required, at an extra cost of from 1s. upwards.

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J. L. PULVERMACHER, 194 Regent St., London, W.

A most Liberal Reduction allowed to the Medical Profession, Chemists and Druggists, and Hospitals.

THE CONTINUOUS VOLTA-ELECTRIC CURRENTS, rendered most conveniently self-applicable by recent improvements of these Chain-Bands, although applied externally, penetrate to the innermost organs, promoting digestion, circulation, and nutrition, and perform their recuperative and restorative work in a silent, natural way, devoid of the costliness, uncertainty and inconvenience of ordinary treatment, or of any unpleasant sensation or shocks, counter-irritation, &c.

Even a Five Shilling Band of the minimum electric power evinces its genuineness by deflecting a telegraphic needle at many miles' distance, whilst those of superior price and power produce all the physical, chemical, and physiological phenomena possessing the famous curative powers of the voltaic battery, enhanced by their great portability.

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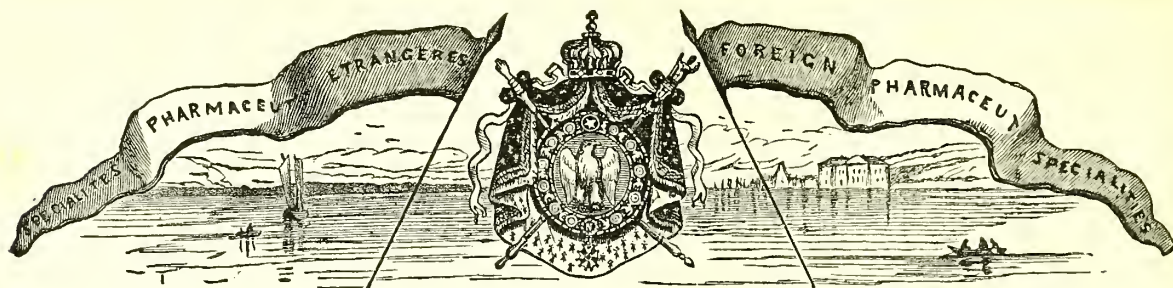
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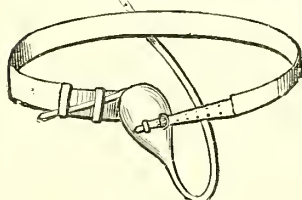
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6.	„ Assafœtidæ Co., P.B. ...	6/	5/	13.	„ Hydrarg., P.B. ...	5/	4/
7.	„ Cambogiæ Co., P.B. ...	6/	5/	14.	„ Hyd. Subchlor. Co., P.B. ...	6/6	5/6
8.	„ Colocynth Co., P.B. ...	22/	21/	15.	„ Ipecac. et Scillæ, P.B. ...	7/	6/
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	„ Do. do. ...	13/	12/	17.	„ Rhæi Co., P.B. ...	7/	6/
	Prepared with Resin Scammony.			18.	„ Saponis Co., P.B. ...	12/	11/
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20.—	Pil. Aperiens.				P. Ipecac. P. Scillæ P. Capsici.	11/	10/
	Ext. Aloes Aq. ... ʒj.				P. Opii P. G. Ammon. Ext. Conii.		
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	„ Jalapæ ... 8 „				Pulv. Ipecac. Co. P. Gum. Ammon.	7/	6/
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	„ Hydr. Subchlor. 4 „			FORM P.—	Pil. Tussi., No. 4.		
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	Gingerin ... 2 „ Ft. Pil. xij.	6/	5/		Pulv. Scillæ Pulv. Sapo.		
	Each Pill contains Calomel $\frac{1}{3}$ gr.				Antim. Tart. Morphia Acet.	18/	15/
21.—	Pil. Aperiens, as No. 20, with 1 gr.			FORM Q.—	Castor Oil Pills.	5/	4/
	Calomel in each Pill ...	6/	5/		A Mild Aperient for Females.		
22.—	Pil. Aperiens, as No. 20, sine Calomel	6/	5/	FORM R.—	Dandelion Pills.		
117.—	Pil. Aperiens, No. 20, half size ...	7/	6/		Ext. Aloes Aquos P. Zingib.		
118.—	Pil. Aperiens, No. 21, half size ...	7/	6/		Ext. Taraxaci Sapo. Mollis.	6/	5/
257.—	Pil. Aperiens, Hospital.			FORM S.—	Pil. Anthem. Co.		
	Ext. Aloes Aq. ... gr. ij.				Pulv. Rhæi Pulv. Zingib.		
	Pulv. Cambogiæ ... „ ss.				Aloes Socot. Ext. Anthem.		
	„ Jalapæ ... „ j.				Ol. Carui.	9/	8/
	„ Colocynth ... „ ss.			FORM T.—	Pil. Cochiae Co.		
	Hyd. Subchlor. ... „ ss.				Pulv. Aloes Cape. P. Cambogiæ.		
	Pulv. Saponis ... „ ss.				P. Jalapæ P. Sapo. P. Zingib.		
	Ol. Menth. Pip. ... „ 1-16th.				Ol. Caryoph.	5/	4/
	„ Caryoph ... „ $\frac{1}{8}$ Ft. Pil. j.	6/	5/	FORM U.—	Pil. Tonic.		
FORM I.—	Pil. Aperiens Fort.				Ferri Sulph. Ext. Gentian.	5/	4/
	Same as No. 257, except that each			FORM V.—	Pil. Prandii, No. 1.		
	5 gr. Pill contains 1 gr. Calomel...	6/	5/		Ext. Aloes Aq. Ext. Gentian.		
FORM J.—	Pil. Aperiens Mit.				Ext. Anthem. P. Capsici.	9/	8/
	Same as above, omitting the Calomel	6/	5/	FORM W.—	Pil. Prandii, No. 2.		
FORM K.—	Pil. Antibilious.				Ext. Aloes Aquos.	7/	6/
	Pil. Hydr. Ext. Coloc. Co.				Pil. Rhæi Co. Ext. Gentian.		
	Ext. Hyosciami.	11/	10/	FORM X.—	Pil. pro Diarrhœa.		
FORM L.—	Pil. Antibil. c. Podophyl.				Acid. Tannic. Camphor.		
	Pil. Rhæi Co. Ext. Hyoscyam.				Capsicum Pulv. Opii.	9/	8/
	Podophyllin gr. $\frac{1}{4}$ in each Pill.	11/	10/	FORM Y.—	Pil. pro Gout.		
FORM M.—	Pil. Tussi., No. 1.				Ext. Colchici Ammon. Carb.	7/	6/
	Pil. Scillæ Co. Pulv. Opii.				Pulv. Guaiac. Resin. P. Opii.		
	Antim. Tart. P. Cambog.			FORM Z.—	Pil. Diuretic.		
	Ol. Anisi.	9/	8/		Pulv. Digitalis.		
					P. Scillæ Pil. Hydrarg.	6/	5/

N.B.—All the above Formulæ can be had either in 4 or 5 grain Pills; the former are sent where the size is not stated.

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Carefully purified from Arsenic, Copper, Silver, Tellurium, Selenium, and all contaminations. Dose: 3 j. diluted.

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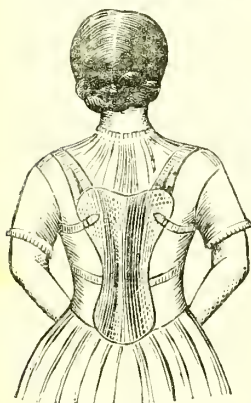
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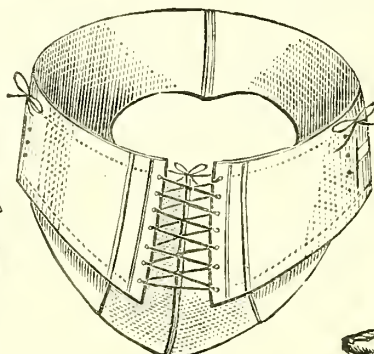
Full directions for medicinal use, and for the preparation of Peptoni-ed Food accompany each bottle.

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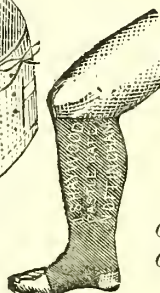
MOTTERSHEAD & CO. (S. Paine & F. B. Benger), Pharmaceutical Chemists, 7 Exchange St., Manchester.

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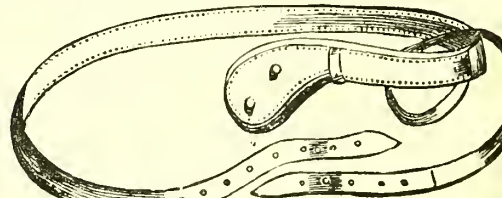
SPINAL COLUMN SUPPORT
(REGISTERED).



PERFECTION BELT
(REGISTERED).

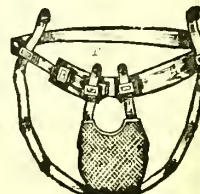


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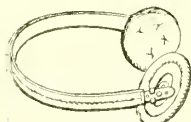


FIG. 1. Patent Single.

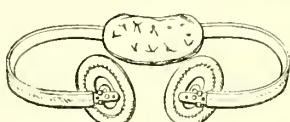


FIG. 2. Patent Double.

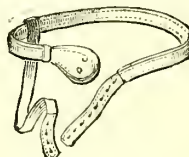


FIG. 3. Common Single.

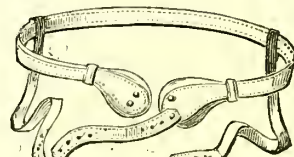


FIG. 4. Common Double.

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Ditto	ditto	Basil and Molekin ...	"	Ditto	ditto	Basil and Molekin ...	"
Ditto	ditto	Roan and Skiver, Silk Sewn ...	"	Ditto	ditto	Basil and Chamois ...	"
Ditto	ditto	Basil and Chamois ... (Fig. 2), double	3 0 0	Ditto	ditto	Basil and Molekin ...	"
Ditto	ditto	Basil and Molekin ...	"				
Ditto	ditto	Basil and Chamois ...	3 16 0				
Ditto	ditto	Roan and Skiver, Silk Sewn ...	4 16 0				

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ACID, GALLIC	Almost white needles	Freely and entirely soluble in alcohol or water.
„ PYROGALLIC	Bi-sublimed, white, bulky	Ditto ditto ditto.
„ SALICYLIC (Kolbe's)	White, powder, crystallised, and dialysed	Dissolves colourless in water or alcohol; purest for medicine.
„ TANNIC	Lightest crystals	Dissolves almost colourless in water, alcohol, and ether.
„ „	Powder and granulated	Dissolves freely in water, alcohol, and ether.
CELLOIDINE (Patent)	Gelatine plates	Purest Pyroxylin; inexplusive.
CHLORAL HYDRATE	White cake and crystal	See Liebreich's, below.
CHLORAL HYDRATE (Liebreich's)	Transparent rhomboidals (facsimile of Dr. Liebreich's)	Will not decompose by age.
CHLOROFORM (ex Liebreich's Chloral)	Schering's original label	Free from foreign chlorides. Will leave no odour on evaporation.
CROTON CHLORAL	Shiny crystalline scales. (Powder form most objectionable)	Free from foreign chlorides.
GLYCERINE	S.G. 1260, double distilled, brilliantly white, odourless; also lower S.G. and qualities	Free from lime, chlorides, metals; will stand severest chemical tests.
IODINE	Resublimed, fine scales	Purest.
ODOFORM	Dry yellow scales	Purest, by medical reports.
POTASS, BROMIDE	Fine white dry regular crystals ...	Perfectly free from iodide, and the most free from chloride.
„ CAUSTIC	Lump and stick, white	Commercially pure, and pure by alcohol.
„ CYANIDE	Ditto ditto	30%, 45%, 60%, and 95%.
„ PERMANGANATE	Large and small crystals	Chemically pure.
„ IODIDE	Fine white dry regular crystals ...	Apply Barytic and other tests. This will never change colour.
SILVER, NITRATE	Fine large crystals	63 to 63½% pure silver.
SODA, CAUSTIC	Lump and stick, white	Chemically pure, and pure by alcohol.
SODA SALICYLATE, and other Salicylates	White powder and crystals	Freely soluble in water and alcohol.

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ERGOTINE, pure Dialysed ...	Brown colloid, purified by Dialysis	Free from all saline matter present in the ordinary Ergotine and extracts.
FERRUM OXYD. (5% Dialysed)	Transparent brown liquid, purified by Dialysis	Free from all saline matter. Diluted by ten times its weight of water, will stand the test of Nitrate of Silver.
PEPSIN PORCI (100%)	White, sweet, odourless powder ...	Freely soluble in water, not hygroscopic, and will not deteriorate; will dissolve (by Wittstein's test) 100 parts of white of egg and 250 parts of fibrine.

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POTASS, BICARBONATE	White powder and crystals	Dissolves bright in water.
SODA, BICARBONATE	Purest white powder, taste neutral, speciality for Soda powder	See tests P.B.
SODA, CARB. (purest)	Dry, for pure Soda Salts	Indifferent to Nitrate of Silver and Chloride of Barium.

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Size.	Height.	N.M.	W.M.	N.M.	W.M.			N.M.	W.M.	N.M.	W.M.
16 ounce	8 inches	17/	19/	20/	22/	per dozen.		32 ounce	10 1/2 inches	20/	23/
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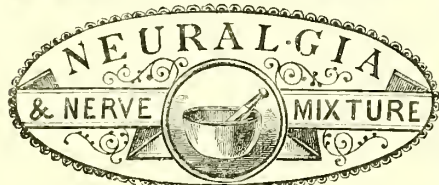
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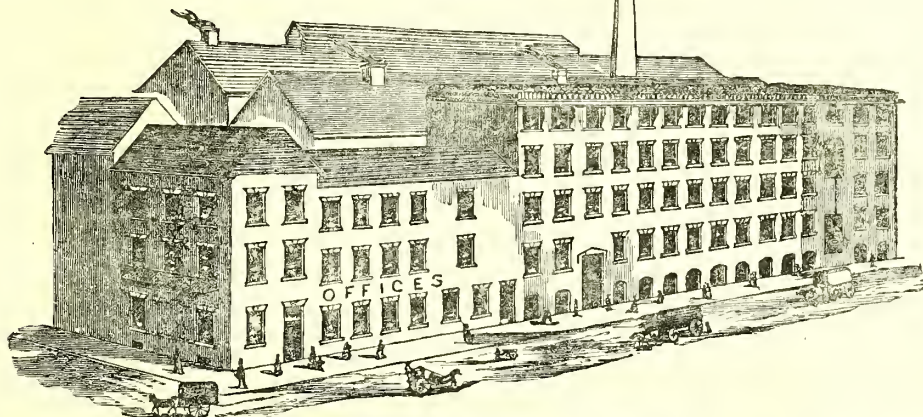
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4 ozs., 4s.; ½ lb., 5s. 6d.; 1 lb., 10s.

TOWLE'S CHLORODYNE LOZENGES AND JUJUBES,

In 1, 2, and 4 lb. Bottles, at 3s. per lb., and 6d. and 1s. Boxes. Foiled, Lined and neatly got up for the counter, 4s. 6d. and 9s. per doz.

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THE ORIGINAL AND ONLY TRUE.

Discovered and Invented by **RICHARD FREEMAN** in 1844.

It is one of those preparations so well known as having something in its composition which defies the imitator, and makes it an invaluable remedy. No other remedy known can be exhibited with so much confidence as a **SEDATIVE**, an **ANTI-SPASMODIC**, an **ASTRINGENT**, an **ANODYNE**, or **DIAPHORETIC**.

In its composition and effect it bears no resemblance to any of the many formulae published, but has curative and chemical properties peculiarly its own, nor is there any analytical test for it. It has been found by the Profession and large numbers of the public to succeed after all imitations had failed, and maintains its unaltered position as the only reliable **CHLORODYNE**.

TESTIMONIALS.

Mr. R. FREEMAN,

Dear Sir,—It is with much pleasure that I am able to state that your Chlorodyne has been of special service to me in alleviating the wearisome spasms of Asthma, which is here existent in an aggravated form. Many of my patients now come and beg me to give them that medicine which always relieves them, and which I need hardly say is your Chlorodyne.

Yours faithfully,

HEAD-QUARTER STAFF, CABUL, May 31st, 1880.

CHARLES W. OWEN, L.R.C.P., Lond., M.R.C.S., Eng.
The Divisional Head Quarter Staff and Civil Surgeon, Cabul.

THE "TIMES," AUGUST 13th, 1877.

From our own Correspondent with the Russian Army.

OKOUN, July 25th, 1877.

The want of sanitary arrangements in the Russian camp was dreadful, and had we remained there a few weeks longer dysentery and typhoid fever would have played more havoc in our ranks than the bombs of the Turks. I myself acquired an unenviable reputation as a doctor, owing to my being provided with a small bottle of **CHLORODYNE**, with which I effected miraculous cures.

IMPORTANT CAUTION.—Four Chancery Suits terminated in favour of **FREEMAN'S ORIGINAL CHLORODYNE** and against Collis Browne and Davenport. Lord Chancellor Selbourne, Lord Justice James, and Lord Justice Mellish condemned their proceedings, and decreed them to pay all costs. Reports of the suits in "Times," January 12 and July 13, 1864, and April 29 and July 24, 1873, and "British Medical Journal," May 3, 1873.

Sold in Bottles, 1s. 1½d.; 2 oz., 2s. 9d.; 4 oz., 4s. 6d.; 8 oz., 9s.; and pints, 11s.; and for dispensing only in bottles, fl. 8 oz. 8s., and fl. 20 oz. 18s. (in weight one pound and a half). A liberal discount allowed. Special quotations given for quantities for Hospitals, Workhouses, Infirmarys, and other Public Medical Institutions. Full directions in various languages.

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(THE ORIGINAL)

No. 14 CAPSULES.

Chemists who have not given our No. 14 Capsule, containing cubeb, copaiba, and oil santal, a trial, we recommend to do so. The opinion seems universal both among medical men and chemists that they are the most efficacious Capsule extant; indeed, many say they are a specific. Without, however, claiming this to be a fact, we believe them to be the best Capsule we have ever made.

In oval Boxes, 36 Capsules in Box, 24/6 doz.

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Capsule Manufacturers,

Manufacturing Perfumers, Cigar Merchants,
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APERIENT FRUIT LOZENGES

Prepared from the bark of the Rhamnus Frangula, a medicine which has been described on high authority as "the only real aperient we have"; all others usually classed under that name being drastic in their operation and often injurious in their after effect. They are extremely palatable, and children take them readily as a sweetmeat. "Mild and uniform in their operation."—*Lancet*. "The lozenge is an excellent and exceedingly mild form of laxative, especially suitable for children and delicate people."—*Birmingham Medical Review*. "They are very mild, and will probably be found very useful for children and delicate women."—*Medical Times and Gazette*. "These lozenges are now extensively prescribed by several of the leading medical men in London and other cities. They are not to be considered a patent or quack medicine in any respect."—*The London Medical Record*.

The attention of the profession and of pharmacists is especially called to these Lozenges. They are extremely palatable. Children take them readily as a sweetmeat.

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And sold at 1s. 1½d., 2s. 9d., 4s. 6d., 11s., 22s., and 33s. each Box or Pot.

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PLEASE NOTE AND HAVE OUR ORIGINAL ARTICLE, WHICH MUST BEAR OUR SIGNATURE.

Since we introduced this elegant preparation it has been largely employed in the treatment of gonorrhœa and gleet, and with the happiest results. It is so much superior to copaivi, as it does not interfere with the digestive organs. The disagreeable eructation which follows the administration of copaivi is not experienced, and the unpleasant rash (*Urticaria*) has not been noticed. It is especially indicated in the advanced stages of gonorrhœa and chronic gleet. If it be given in the beginning, before the inflammation has fully developed, it may sometimes succeed in abating the attack, but if it fail to accomplish this it had better be suspended, as it may aggravate the symptoms during the inflammatory stage. In other inflammatory affections of the genito-urinary mucus membrane, such as pyelitis and chronic cystitis, when the disease is of a subacute or chronic character, the liquor santal may be employed with great advantage. Santal Oil has been the remedy of some eminent surgeons in the treatment of gonorrhœa, but in combination with buchu and cubebs it is much more efficacious. The great difficulty in its administration was its suspension in mixtures, but this trouble is arrested by a beautiful pharmaceutical process, and our preparation will be found perfectly miscible in water.

Price 10s. 6d. per pound, packed in 10 oz., 22 oz., 40 oz., and 90 oz. Bottles.

From Dr. GOURLEY, F.R.C.S., Senior Surgeon, Hartlepool Hospital.

"I have found your 'Liq. Santal Flav. cum Buchu et Cubebâ' invaluable in several cases of gonorrhœa, and more particularly in gleet. I consider it one of our best remedies in this frequently tedious complaint. It forms a nice mixture, and is quite free from the symptoms produced by copaiva.—S. GOURLEY, M.D., F.R.C.S., Senior Surgeon to Hartlepool Hospital.—To Messrs. C. J. HEWLETT & Son, Creechurch Lane, London."

C. J. HEWLETT & SON,
MANUFACTURING AND PHARMACEUTICAL CHEMISTS,
CREECHURCH LANE, LEADENHALL STREET, LONDON, E.C.
ESTABLISHED 1832.

Physicians will oblige, when ordering *Liq. Santal Flav. cum Buchu et Cubebâ*, by writing "*Liquor Santal Flav. c. Buchu et Cubebâ (Hewlett's)*," as there are many imitations.

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A CERTAIN CURE FOR DEAFNESS.

By this valuable "Specific" hundreds have been cured of this distressing malady. For Cold in the Head with Noises in the Ear, it is most efficacious. The highest testimonials are enclosed, with directions for use with each bottle.

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TESTIMONIALS.

"EDGBASTON, MAY 4, 1877.—Sir,—My niece, who came to stay at my house, was suffering from Deafness and difficulty of breathing, owing to weakness of the tonsils caused by Quinsy. She tried your wonderful 'Specific,' and after applying it a little more than a week her hearing and breathing were quite restored. I am glad to communicate this as the medium of personal thanks and for the good of others,—Yours truly, C. L."

"CLAPHAM, SEPT. 5, 1877.—Sir,—Be so good as to send me six bottles of your 'Cure for Deafness,' and you will oblige. I am much better. Shall I go on with it? Be so good as to let me know. It has done me more good than physicians to whom I have paid twenty guineas; they cannot do me any good.—Yours, &c., J. P."

"CRYSTAL PALACE ROAD, EAST DULWICH, JUNE 10, 1878.—Sir,—During the last few weeks my little girl has been quite deaf, and suffering considerable pain in her left ear. I was recommended to use your 'Golden Drops for Deafness,' and I am delighted to say that, after applying them three times, they brought away two large secretions of foul matter. The child can now hear distinctly the faintest sounds, and is free from pain. I send you this testimonial unasked, in the hope that its publication may increase the sale of your truly valuable 'Golden Drops.'—Yours respectfully, I. H. S. N.B.—If you will send me some testimonial sheets I will distribute them amongst my friends."

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PERFECT IN PURITY AND UNIFORM IN STRENGTH.

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Shape	Size	Shape	Size
Square	4 1/2 x 5 1/2	Oblong	6 1/2 x 11
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Discovered and so named A.D. 1862,
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To Residents in India, China, and the Colonies, it will
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Is a Pure Solution of Phosphorus, pleasant in flavour and appearance, being a perfectly Bright Liquor, combined with Vegetable Alkaloids, possessing marvellous Curative Properties, the Wonder of Modern Chemistry, free from all Dangerously Active Drugs; innocent in its action, and pronounced by the Highest Medical Authority to be unequalled for its power in replenishing and elaborating the Vitality of the Body; by its supplying all the essential constituents of the Blood, Brain, and Nerve Substance; and for developing all the Powers and Functions of the System to the highest degree, thereby checking all Wasting of the Vital Fluid, and the more Exhausting Wear and Tear of Life resulting from Over-taxed Energies of Body or Mind, maintaining that Buoyant Energy of the Brain, Nervous, and Muscular Systems, which renders the Mind Cheerful, Happy, Brilliant, and Energetic.

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Surpasses all the known therapeutic agents of the present age, for the Speedy and Permanent Cure of all Derangements of the Nervous and Blood Systems.

Nervous Prostrations, General Debility, Mental and Physical Depression, Incapacity for Study or Business, Noises in the Head and Ears, Loss of Energy and Appetite, Nervous Debility in all its Stages, Softening of the Brain, Paralysis, Pains in the Back, Affections of the Kidneys, Urinary Deposits, &c., Asthma, Scrofula, and Skin Diseases, Wasting or Withering of the Muscles, Impure and Impoverished Blood, Premature Decline, and all morbid conditions of the system dependent upon the deficiency of the Vital Forces arising from whatever cause.

DR. LALOR'S PHOSPHODYNE is sold in Bottles at 4s. 6d. and 11s., by all Export, Wholesale, and Retail Medicine Vendors throughout the World.

IMPORTANT NOTICE.—NONE IS GENUINE UNLESS the name Dr. Lalor's Phosphodyne, London, England, is blown in the Glass of each Bottle, and every Bottle bears the British Government Stamp, with the word **DR. LALOR'S PHOSPHODYNE**, London, England, engraved thereon by Order of Her Majesty's Honourable Commissioners, IF NOT IT IS A FORGERY, AND YOU HAVE BEEN IMPOSED ON BY A WORTHLESS IMITATION.

The Phosphoric Treatment of Disease, with Cures, post free from

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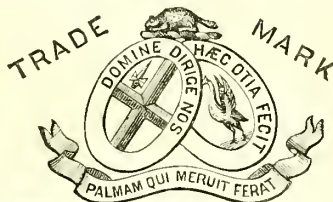
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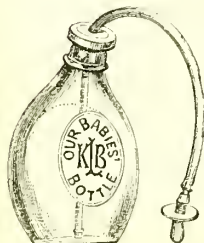
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Put up one dozen in a box.

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No. 3A (for ankle), 6 feet by 2½ inches	2/3	No. 1A (same as 1B but thicker)	5/9
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Gold Medal, Vienna, 1873.

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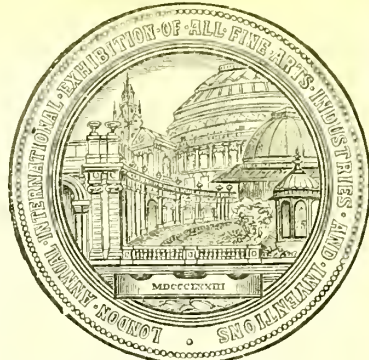
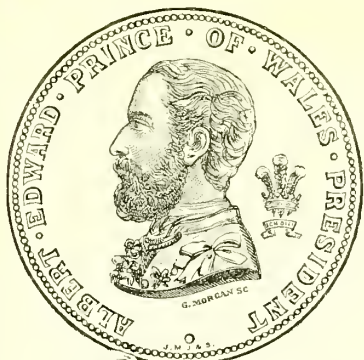
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TRIANGULAR BANDAGES.
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An admirable Antiseptic Dressing.

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ROLL BANDAGES,

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This LINT, unequalled by any other, has been before the Public for about Thirty Years, during which time it has been most extensively used in the British Army and Navy, in a large number of British and Foreign Hospitals, and by the Medical Profession generally.

Its Advantages are, that being made from fine Flax Fibre it is perfectly free from all impurities, and, for Surgical purposes especially, is infinitely superior to Lint made from any other material.

Manufactured by W. G. TAYLOR, Charford Mill, BROMSGROVE.

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Packages having the Patentee's Signature alone are genuine.

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W. G. TAYLOR begs to inform the Trade that he is the sole Manufacturer of the above celebrated Lint, and that he has no connection whatever with any other maker. Supplied Wholesale, direct from the Works; or by

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3s. 8d. per lb.

Maw's Surgeons' Lint,
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*Speedily Restores GREY HAIR to its
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One Shilling per Bottle. Also in large Bottles in Case, Two Shillings and Sixpence, with Directions for use in English, French, and Spanish. The 2/6 size is specially adapted for country, colonial, and foreign buyers. It is supplied in one dozen wooden boxes, stencilled with title, and forming a good advertisement.

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Special Prices to large Cash Purchasers. Energetic Agents liberally treated.

BATCHELOR'S PURE SKIN SOAP

The Best that can be used for the Complexion and Skin.

In Boxes of Four Tablets at 1/- per Box.

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Sole Agent for GRAHAM'S COMPOUND PODOPHYLLIN PILLS, held in great repute in all parts of India for Liver Complaints, so prevalent in hot climates.

SELLERS' QUINQUININE,

*Consists of the entire alkaloids of the official
Cinchona Bark, and takes the place of Quinine at
less than half the price.*

The original and genuine Quinquinine is manufactured solely by the inventor—J. SELLERS—and has been extensively used in Hospitals and private practice for more than ten years, with the most satisfactory results. It possesses properties superior to Quinine—Quinidin, Cinchonidine, Cinchonine, &c., in their separate form—both as a tonic and antiperiodic, with much less risk of producing headache than Quinine. It resembles Quinine in appearance, and dissolves readily in dilute acids, forming a clear solution. It is well adapted for the manufacture of Tonic Wines and other compounds, affording equally effectual and less costly preparations than Quinine alone.

Dose—the same as Quinine. Sold in 1 oz. Bottles, 5s. 6d.; also in 4 oz. Bottles, and 25 oz. Tins.

SELLERS' CITRATE OF IRON & QUINQUININE

An elegant and safe Preparation resembling the Citrate of Iron and Quinine, contains 25 per cent. of Quinquinine. Dose—the same as Ferri et Quinæ Cit. P.B. Price 2s. 6d. per oz. May be obtained of all Wholesale Druggists, or direct from the Maker.

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MANUFACTURING CHEMIST,
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Merchants and Shippers to India, China, the West Indies, and all Tropical Districts, treated on the most liberal terms.

CAUTION.—All orders should specify "SELLERS' QUINQUININE," to avoid spurious imitations.

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Is the most certain and SPEEDY REMEDY for all DISORDERS of the CHEST and LUNGS. In Asthma and Consumption, Bronchitis, Coughs, Influenza, Difficulty of Breathing, Spitting Blood, Whooping Cough, Hoarseness, Loss of Voice, &c., this Balsam gives instantaneous relief, and, a properly persevered with, scarcely ever fails to effect a rapid cure. It has now been tried for many years, has an established reputation, and many thousands have been benefited by its use.

IT HAS A MOST PLEASANT TASTE.

IMPORTANT TESTIMONIAL.—"ANPORT FINS, ANDOVER, MAY 29, 1869.—Sir, I have for some years had your Balsam of Horehound for Mrs. B. Webster, and intended writing to tell you how much benefit she has derived. She was considered consumptive, but the Balsam has quite restored her, and she is now quite strong. I have recommended you dozens of customers, and all have been pleased with it.—I am, yours, &c., H. B. WEBSTER.

Mr. HORROX, Chemist, Mildenhall, writes to say:—"One of my customers says your Balsam is worth sixpence a drop."

IN THE NURSERY it is invaluable, as children are fond of it and take it eagerly. Immediately it is taken coughing ceases, restlessness is gone, and refreshing sleep ensues. No lady who has once tried it would ever afterwards be without it.

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CAUTION.—Mr. CLARKE will take immediate proceedings against all persons pirating his Trade Mark, "Blood Mixture," Labels, Wrappers, &c., or Advertisements, or in any way infringing his rights.

Dr. J. COLLIS BROWNE'S CHLORODYNE.

THE ORIGINAL AND ONLY GENUINE.

IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never said any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the Inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation evertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

From SYMES & Co., Pharmaceutical Chemists, Medical Hall, Simla,
January 5, 1880.

To J. T. DAVENPORT, Esq., 33 Great Russell Street, Bloomsbury, London.

DEAR SIR,—Have the goodness to furnish us with your best quotations for Dr. J. Collis Browne's Chlorodyne, as, being large buyers, we would much prefer doing business with you direct than through the wholesale houses. We embrace this opportunity of congratulating you upon the wide-spread reputation this justly-esteemed medicine has earned for itself, not only in Hindostan, but all over the East. As a remedy of general utility, we much question whether a better is imported into the country, and we shall be glad to hear of its finding a place in every Anglo-Indian home. The other brands, we are happy to say, are now relegated to the native bazaars, and, judging from their sale, we fancy their sojourn there will be but evanescent. We could multiply instances *ad infinitum* of the extraordinary efficacy of Dr. Collis Browne's Chlorodyne in Diarrhoea and Dysentery, Spasms, Cramps, Neuralgia, the Vomiting of Pregnancy, and as a general sedative, that have occurred under our personal observation during many years. In Choleraic Diarrhoea, and even in the more terrible forms of Cholera itself, we have witnessed its surprisingly controlling power. We have never used any other form of this medicine than Collis Browne's, from a firm conviction that it is decidedly the best, and also from a sense of duty we owe to the profession and the public, as we are of opinion that the substitution of any other than Collis Browne's is a deliberate breach of faith on the part of the chemist to prescriber and patient alike.

We are, Sir, faithfully yours,

SYMES & Co.,
Members of the Pharm. Society of Great Britain,
His Excellency the Viceroy's Chemists.

Sold in Bottles—1s. 1½d., 2s. 9d., 4s. 6d., and 11s. Usual Discount to the Profession.

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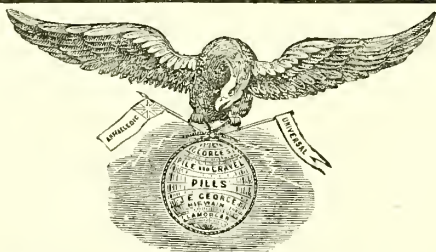
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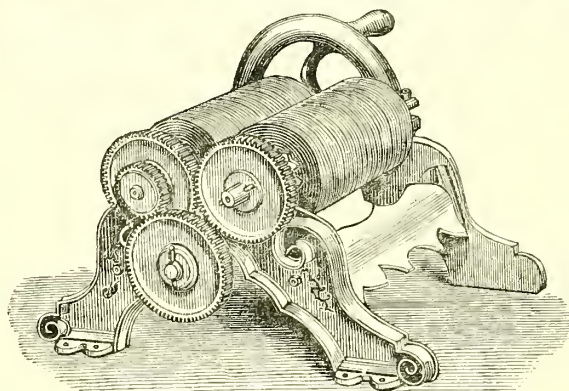
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Sold by all the Wholesale Houses, and at the Cambrian Pill Depot, TREMADOC, North Wales. Retail by all respectable Medicine Vendors in every town in the United Kingdom, in Boxes at 1s. 1½d., 2s. 6d., and 4s. 6d. each. Great saving in procuring the large Boxes.

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Turns out One Pound of Pill Mass in perfect Pipes in 3 Minutes.

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This little Machine is worked with the ordinary Counter Pill Machine, and as no weighing or rolling out of the mass is required, the saving of time is very great and manifest. It may be inspected, and its practical working shown, at Mr. CASSIE'S, 49 Newgate Street, London.

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Shown and Worked in the last Pharmaceutical Exhibition.

ILLUSTRATED CIRCULARS ON APPLICATION.

Machines made to order, as Pipers and Cutters only; or to match any given size of Pill, when either the Piping or Cutting parts are not required.

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have now become one of the leading Patent Medicines of the present day. From north to south, and from east to west, they are to be found in the homes of the rich and the poor. All classes of society use them, and they are by thousands declared to be

WORTH A GUINEA A BOX.



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For a Weak Stomach, Impaired Digestion, and all Disorders of the Liver, they act like "MAGIC," and a few doses will be found to work wonders on the most important organs in the human machine. They strengthen the whole muscular system, restore the long-lost complexion, bring back the keen edge of appetite, and arouse into action, with the ROSE-BUD of health, the whole physical energy of the human frame. These are "FACTS" admitted by thousands, embracing all classes of Society, and one of the best guarantees to the Nervous and Debilitated is, BEECHAM'S PILLS have the LARGEST SALE of any Patent Medicine in England.

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ALL MADE FROM PURE BUTTER OF COCOA.

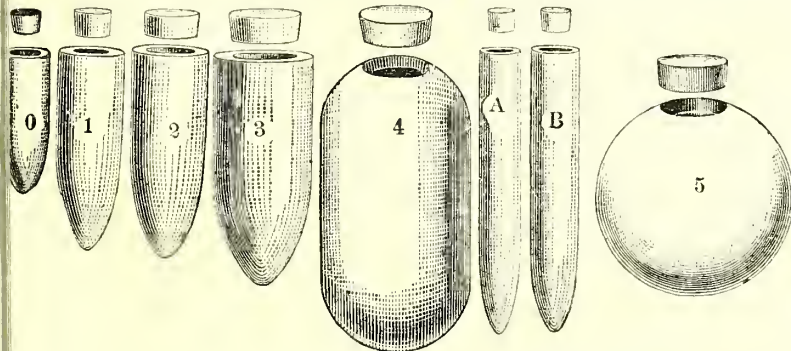
The object of this invention is to supply Druggists and Physicians with HOLLOW SUPPOSITORIES, into which they can put MEDICINE or NUTRIMENT, thus preparing them for use in a few minutes.

The rectum not only absorbs more rapidly than other mucous membranes, but it has considerable digestive power, so that some medicines act more promptly *via rectum* than by the mouth. Life may be indefinitely sustained by means of concentrated foods introduced into the system through this avenue. Physicians have, heretofore, been unable to employ, satisfactorily, this invaluable method of medication and nutrition, because of the difficulty of obtaining suppositories that are *evenly medicated*.

If the medicine is *lighter* than the butter of cocoa, it rises to the surface, and most of it goes into the first moulds that are filled. If the medicine is *heavier*, as *calomel*, it sinks, and, not infrequently, most of it may be found in the last suppository that is poured, and thus some of them are hardly medicated at all, while others may be dangerous because of the *excess* of medicine they contain; though the medication be even, the suppositories are usually rough and crumbly and easily break in pieces; or produce anal irritation when being inserted; moreover, nutritive substances, as *beef extract*, etc., cannot be incorporated in the ordinary suppositories. The employment of our "HOLLOW SUPPOSITORIES" overcomes all these difficulties, as the required quantity of medicine or nutriment can be put directly into each "HOLLOW SUPPOSITORY" and sealed up, and then it is ready for use. Medicines may be triturated in a mortar with a little butter of cocoa, or made into a mass and divided into equal parts and put in the "HOLLOW SUPPOSITORIES," or if liquid, poured in. All fillings must be put in cold.

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Size 0, is for children. It may also be used for the EAR, and in the NASAL PASSAGES. Nos. 1, 2, and 3 are RECTAL SUPPOSITORIES. Nos. 3 and 4 may be used for introducing nutriment into the system, *via rectum*. No. 4 is also a VAGINAL Suppository. No. 5 is a "SPHERICAL HOLLOW SUPPOSITORY" to introduce remedies into the VAGINA and to the *os uteri*, where they may be kept in contact with the diseased part by means of a *tampon* of cotton covered with oiled silk. A and B are used for medicating any part of the URETHRA or UTERINE CAVITY of NASAL PASSAGES.

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" " No. 1	6/6	1/3
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Copaiba, Alum and Cubeb	7/	2/
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For producing Local Anæsthesia.

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1.—FOR GOLD.

THESE ARE PERFECTLY SMOOTH, AND OF THE CORRECT POROSITY.

No.	Diam. in.	Height in.	Per doz.
A.	1½	1½	2s. 0d.
B.	1½	1½	2s. 0d.
C.	1½	1½	2s. 0d.
D.	1½	2	2s. 0d.

Covers for either size, 6d. per doz.

2.—FOR COPPER.

CORNISH FORM AND QUALITY.

Nest of Two	{ 3¼ in. high, 3 in. diam. }	2s. per doz.
Single	.. 2 " 2½ "	1s. "

All Forms and Sizes can be had.



Among the English Firms who have received Awards at the Centennial, Philadelphia, are the Patent Plumbago Crucible Company, Battersea Works, London, for Jewellers' and Chemists' Furnaces, Mufflers, Crucibles, and Scorifiers.—*Chemist and Druggist.*

Other particulars on application to

PATENT PLUMBAGO CRUCIBLE CO., BATTERSEA WORKS, LONDON, S.W.

MATHER & CRESSWELL'S IMPROVED **SOLUBLE PEARL-COATED PILLS.**

IMPORTANT NOTICE.

The great increase of late years in the demand for Coated Pills has induced us to manufacture them on an extended scale. We have, therefore, fitted a Special Laboratory with every improvement, and are now prepared to supply **COATED PILLS** of all kinds which, for beauty and delicacy of **finish, PERFECT SOLUBILITY**, and general excellence, are not to be surpassed.

The **COATING**, by a new process entirely our own, is perfectly **INNOXIOUS, QUICKLY SOLUBLE** even in cold water, gives the Pill an agreeable appearance, and prevents it from cracking. While shielding the palate it preserves the Pill from atmospheric action, and keeps it in its proper form.

THE PILLS are Coated while soft, and the excipients employed are such as to preserve and render their action perfect.

We invite the most critical examination and comparison, confident that a trial will prove the **PERFECT QUALITY AND RELIABILITY** of our Pills, as all are made from selected Drugs of the first quality, prepared under our personal superintendence, and every detail of their manufacture carefully conducted in the most approved manner.

PRIVATE FORMULÆ FAITHFULLY DISPENSED.
Pill Masses Rolled and Coated upon the shortest notice.

Samples and Price List sent on receipt of business card.

Medicated Lozenges of all kinds. Lozenges made from materials supplied.

MATHER & CRESSWELL,
STEAM LABORATORY,
FELTON STREET, HOXTON, N.

The LANCET, writing of Bishop's Preparations, says—"Their excellence is well known." The BRITISH MEDICAL JOURNAL says—"The name of Mr. Bishop is a sufficient guarantee that the article is skilfully prepared."

Established 1857.]

BISHOP'S

[Established 1857.]

GRANULAR EFFERVESCENT CITRATE OF CAFFEINE.

The Best Remedy for Headache.—Contains One Grain in each Drachm.



CITRATE OF CAFFEINE is now recognised by the medical profession as the safest and surest remedy in cases of nervous or sick headache. In the effervescent form it is more agreeable to the patient, and its remedial action is more prompt. The salts with which it is combined, when in that form, have themselves a tendency to allay any irritation of the stomach.

Dr. BEARD, of New York, in writing of this Salt, says:—"Of the different forms of CAFFEINE I prefer the CITRATE, since it seems to accomplish the desired results with a smaller dose and more surely. When this remedy is given in a dose just adapted to the needs of the sufferer it quickly and perfectly removes the pain in the head and the nausea. I have known it produce this result in less than fifteen minutes.

"The use of CAFFEINE in headache seems to me to be one of the most important of the special therapeutic advances of our time; it is a genuine and solid reality, the relief it affords being too speedy and too frequent to be accounted for by coincidence or mental influence."

"It is better to give the CITRATE OF CAFFEINE just as the headache is coming on; but it may be given at almost any stage, and when the proper doses are taken it seems to take up pain and bear it away."

The following are among the medical opinions which have been published respecting BISHOP'S GRANULAR EFFERVESCING CITRATE OF CAFFEINE:—

The British Medical Journal, Nov. 8, 1879, says:—"We have administered it in nervous headache, and in the malaise following an alcoholic debauch, with benefit."

"The Medical Times and Gazette, Nov. 22, 1879, says:—"The GRANULAR EFFERVESCING CITRATE OF CAFFEINE provides a pleasant medicine which has been largely tried, and with no little success, as a remedy for sick headache and other nervous disorders."

BISHOP'S GRANULAR EFFERVESCING CITRATE OF CAFFEINE is sold in bottles at 2s. 6d. each. With each bottle is supplied a wooden measure cup, which, when filled but not heaped, gives an exact dose. The GRANULAR EFFERVESCING CITRATE OF CAFFEINE should be taken at the commencement of an attack of headache, and the dose should be repeated in an hour if any pain should remain.

BISHOP'S

GRANULAR EFFERVESCENT CITRATE OF POTASH.



Contains eight grains of this admirable anti-febrile salt in each drachm, keeps well, and yields a delicious effervescent draught. It is more efficient, more economical, and more convenient than the ordinary alkaline waters, and much superior to the various mixed powders, which consist mainly of Tartrate of Soda.

A customer writes:—"It is the nicest effervescent preparation I have ever tasted, and is infinitely pleasanter than the bottled waters." Dr. G. O. DREWRY, in his "Common Sense Management of the Stomach," recommends for Indigestion, Constipation, &c., the "GRANULAR EFFERVESCING CITRATE OF POTASH" as a very agreeable, mild, and cooling laxative, when taken in doses of one dessert spoonful in half-a-pint of water before breakfast.

BISHOP'S

GRANULAR EFFERVESCENT MINERAL WATER SALTS.

For the preparation of artificial waters, these Granular Effervescent Salts are especially suitable. They give a refreshing draught, and may be relied on as presenting at the same time the chemical ingredients of the natural waters. It is obvious that in this form the Granular Effervescent preparations present many advantages over the waters themselves. Whilst all the constituents of the natural springs are reproduced, the Salts are extremely portable, more economical, and with them a sparkling refreshing draught is procurable in any quantity at any time. Among the Mineral Water Salts thus prepared may be named, Carlsbad, Kissingen, Pullna, Seltzer, Vichy, Lithia, Friedrichshall, &c., &c. In each case a tea-spoonful of the Salt in a tumbler of water will produce a draught similar in effect to the natural water. The Seltzer Water has been long recognised, both in this country and in Europe, as an excellent tonic and mild aperient. A bottle of the Granular Effervescent preparation of this Salt is a great addition to the dinner-table, as a small draught of the wholesome and refreshing beverage prepared from it, and taken during dinner, is both agreeable and beneficial.

Sold in Bottles at 1s., 1s. 6d., and 2s. 6d. each. Also in larger ones for family use.

BISHOP'S

GRANULAR EFFERVESCENT CITRATE OF MAGNESIA.



A perfectly white, and delicately clean preparation, prepared from salts obtained from the Pure Fruit Juices of Lemons and Grapes.

The best chymists in Great Britain and the Colonies keep no other "Granular Effervescent Citrate of Magnesia" than "Bishop's." The reason for this universal preference is that, since its introduction in 1857, it has been found that none of the Imitations of this preparation, originally introduced by Mr. Bishop, have been able to compare with it in reliability as a medicine, or in purity and freshness of flavour as a cooling drink. Full directions on each bottle.

Dr. A. H. HASSALL cautions the profession and the public to select carefully only preparations of known composition and ascertained purity, for there is no class of remedies which is liable to a greater diversity of composition and quality than the effervescent granular preparations; adding that he is able to state further that all constituents entering into the composition of Bishop's several preparations are pure and of excellent quality.

Observe the Name on the Seal, the Registered Trade Mark on the Label, and full address of

ALFRED BISHOP, Manufacturing Chymist,
17 Speck's Fields, Mile End New Town, London.

Messrs. JOHN WYETH & BROTHER are Sole Agents in the United States for Mr. Bishop's Preparations, and keep Stock of all the above products.

THE "OTTO" SILENT GAS ENGINE.

NO BOILER OR STEAM NEEDED.

HIGHEST AWARDS AT SYDNEY AND MELBOURNE EXHIBITIONS.

Nearly 5,000 Ottos
now at Work.

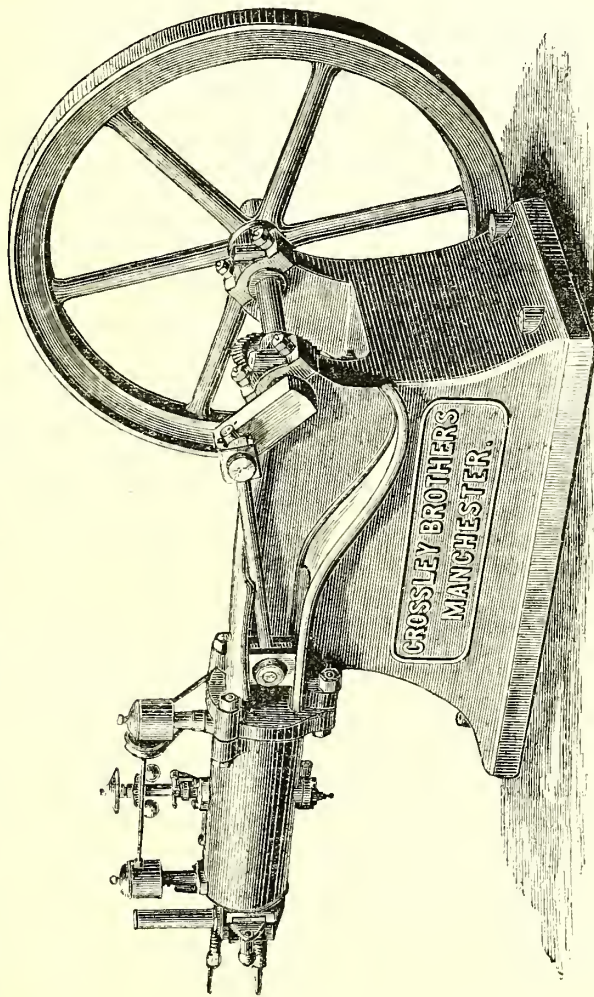
Nearly 5,000 Ottos
now at Work.

Particularly suitable
for Aerated Water Work,
Drug Grinding,
Hoisting, &c.

Please write for
Special List of Engines
doing this Work,
and Testimonials.

LONDON HOUSE:
24 Poultry.

LIVERPOOL STORE ROOMS:
Basement, Corn Exchange.



ADVANTAGES AS
Compared with Steam.

No Heat. No Danger.
No Dirt. No Chimney.
No Dust. No Smoke.
No Extra Insurance.
No Glands to Pack.
No Safety Valves to Watch.
Always Ready.
Occupies little Space.
Requires no constant attendance.
May be run Night and Day.

GLASGOW HOUSE:
193 Sauchiehall Street.

BRISTOL HOUSE:
127 Redcliff Street.

1 H.P. and 16 H.P. type of Engine.

STARTS AT A MOMENT'S NOTICE.

SIZES {	Nominal Horse Power ...	1	2	3½	6	8	12	16	}	OFFERED.
	Maximum Indicated Horse Power...	1.1	2.26	3.96	5.9	11.57	14.7	23.1			36 to 40

CROSLEY BROTHERS,

CALEDONIAN FOUNDRY, MANCHESTER.

AGENCIES WITH STOCK AT ALL PRINCIPAL COLONIAL PORTS.

THE PATENT "BISSCHOP" GAS-ENGINE.

POWER.	PRICE. Carriage Extra.	Space Occupied.	Height.	Revolutions per minute.	Consumption of Gas per hour.	Approximate Cost of Gas per hour.
One Man	£25	2ft. 4in. x 2ft.	4ft.	100 to 140	12 cu. ft.	1d.
One and Half Man	£30	2ft. 4in. x 2ft.	4ft.	100 " 130	17 "	2d.
Two Man	£35	2ft. 9in. x 2ft.	4ft. 8 in.	90 " 120	21 "	3d.
Four Man	£50	4ft. x 2ft. 6in.	6ft.	80 " 90	28 "	1 1/2d.

*The Simplest, the Most Economical, and the Most Efficient
Small Motive Power in Existence.*

**EXTENSIVELY IN USE FOR TURNING SODA
WATER MACHINES.**

*No Water. No Separate Meter. No Lubrication of the
Cylinder or Slide Valve. A Boy can Manage it.*

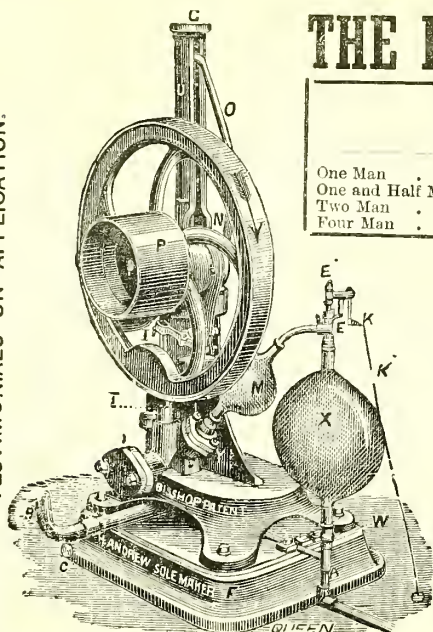
Average Weekly Sale - - 12 Engines.

J. E. H. ANDREW,

18 and 20 WATERLOO ROAD, STOCKPORT,

Sole Manufacturer for the United Kingdom.

TESTIMONIALS ON APPLICATION.



VALLET'S PATENT.

Fig. 1.

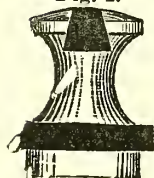



Fig. 3.



New Stopper.

The Stoppers are made in six different sizes—Nos. 1, 2, 3, 4, 5, and 6. Nos. 4, 5, and 6 are most suitable for general use, the Bottles adapted to which having sufficient capacity in the mouth to allow a copious flow of the liquid, whilst Nos. 1, 2, and 3 are specially made for Bottles which have only a small mouth, thus retarding the flow of the liquid, and causing the evaporation of the carbonic acid gas before the Bottle can be emptied.

ROYALTY FREE.

 All Communications to be addressed to

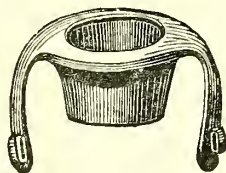
**L. VALLET, 49 Everton Road,
LIVERPOOL.**

Fig. 2.—THE STOPPERED AND FITTED BOTTLE.

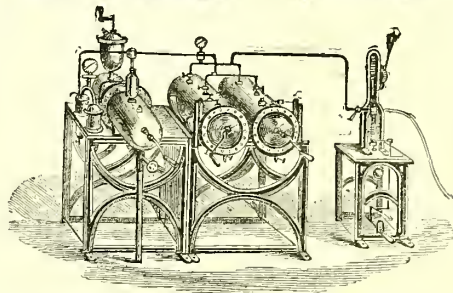


SODA-WATER MACHINERY.

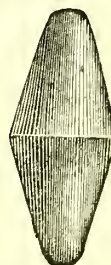
PATENT NOZZLE



FITS ANY BOTTLE.



CONE STOPPER.



BALL STOPPER.



SODA WATER MACHINE COMPLETE, WITH RACK.

DAVENPORT'S NOZZLE AND STOPPER is the best Patent for utilising old Bottles, and converting them into Patents. No Corks or Wire, and saving entire cost in one season. The New Nickel-plated Nozzle makes this the most attractive Patent in use. Trial allowed. Prices lowered. Send for Samples. New Bottles ready fitted for use now supplied. Catalogues of Soda-Water Machines, Ice-Making Machines, Engines, Boilers, Copper Cylinders, Syphons, Seltzogenes, Filters, &c., and all accessories to the Soda-Water Trade.

AGENTS FOR HAYWARD TYLER & CO.'S SODA-WATER MACHINERY.

" " **BARRETT & ELSERS' Patent Stoppers in Lamont's Bottles.**

Illustrated Catalogues, of sixty-four pages, post free to all parts of the World.

**DAVENPORT & CO., Soda-Water Machinists and General Machinery Agents,
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MELBOURNE EXHIBITION, 1881.

FIRST ORDER OF MERIT

AWARDED TO

HAYWARD TYLER & CO.,

FOR THEIR EXHIBIT OF

SODA WATER MACHINERY

84 & 85 WHITECROSS STREET, LONDON.



GOLD MEDAL,

SODA WATER MACHINERY.

MONDOLLOTT'S PATENT.

The chief features of which are the entire suppression of the Gasometer and all its disadvantages, economy of materials, and saving of labour.

Notwithstanding the short time this Machine has been put before the Public, over 400 Machines are already in use all over the World.



PARIS, 1878.

No Gasometer.

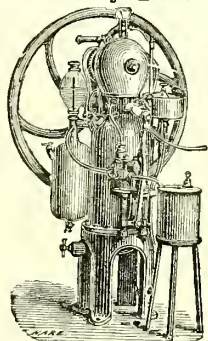
No danger of Explosion.

No skilled labour required.

No previous knowledge necessary.

Bottle and Syphon Filling Stand, Syphons, Syrup Pump, and all necessary Appliances. A New and Exhaustive Catalogue is now in the press, and will be sent, when ready, on application to

H. FAVARGER (Late MONDOLLOTT) & CO., Limited,



No. 1 Machine, complete.
Prices from £25.

The Cheapest Machine.

The Most Compact.

The Most Simple to Work.

Being Entirely Automatical.

"When explained it is simplicity itself. . . . The fact of the economy of skilled labour and the saving of materials being the chief and most important points."
—The Mineral Water Trade Review and Guardian.

"There is no ordinary generator or gasometer in connection with this machine, and therein lies the secret of its advantage over the ordinary English Machines."
—The Mineral Water Trade Recorder and Advocate.

75 TURNMILL STREET, LONDON.
CLERKENWELL, E.C.

SODA WATER MACHINERY

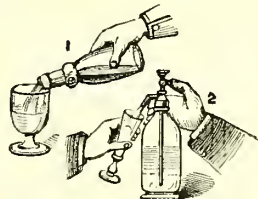
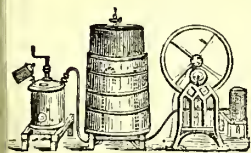
BY

BARNETT & FOSTER,

231 FORSTON STREET, SHEPHERDESS WALK, LONDON, N.

Prize Medals—London, 1862, 1873, 1874; Paris, 1867, 1878; Vienna, Philadelphia, Cape, &c. Highest Award, Sydney, 1879-80.

Our Machines are universally adopted throughout the world for the manufacture of all kinds of Aerated Drinks, whether in bottles, syphon-, or counter fountains. There are in England alone over 1 500 factories where our Machinery is in use. They are the simplest, safest, and cheapest for the purpose, and produce a highly-charged gaseous water free from metallic or foreign contamination.



All our Machines have a Gasometer, and it forms a most important necessity where purity of product is required, as in this the gas is expanded and purified; it also removes the possibility of explosion, and avoids the necessity of complication—these we consider of greater importance than the saving of a few inches of floor space.

Our valuable Book of Recipes and Instructions accompanies every Machine, and the most unskilled can at once produce Waters of the highest class.

Sole Agents for Codd's Patent Bottle, Fig. 1. Sole Manufacturer of the "London-made" Syphon, Fig. 2.

PATENTEES OF THE IMPROVED CORKING MACHINE FOR CHAMPAGNE BOTTLES.

ILLUSTRATED CATALOGUE FORWARDED FREE.

NOVELTIES IN BOTTLES AND STOPPERS.



THE
GLASS, EBONITE, PORCELAIN, &C.
DISC BOTTLE,

WITH NEW PATENT PURE RINGS,
SIMPLE, PERFECT, UNIQUE.

Likely to supersede all other Patent Bottles.

*The Disc effectually covers the rubber
when the bottle is filled.*

These Bottles and Ebonite and
Porcelain Discs can be supplied
at a cheaper rate than the
Prepared Glass, as No. 1.



THE SCREW STOPPER & BOTTLE,
For Ales, Porter, Cider, and
Brewed Beer.

The Screw Stoppers can be attached to the necks of
the Bottles by a band of wire and a small chain, if
preferred; price about 3s. 6d. extra. See Fig. 4.

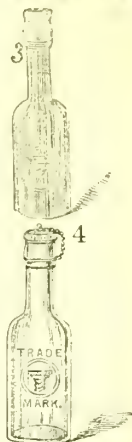
When bottling, the Stoppers must be wetted before
screwing them in. Screw it gently but firmly home.

They should not be subjected to the action of any
strong alkali, or great heat, and are not recommended
for bottling spirits at present.

Essential and Indispensable for every
Refreshment Room Proprietor, for every Hot-
l and Public-house, and for every Householder.

Our other, and well-known Stoppers,
&c., still supplied as usual.

SAMPLES ON APPLICATION.



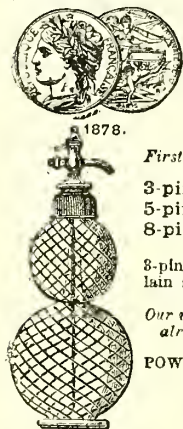
OUR ORIGINAL AND WELL-KNOWN
STOPPERS HAVE NOW BEEN
IN USE FOR YEARS BY
UPWARDS OF 1,000



MINERAL WATER MANUFACTURERS
AND OTHERS THROUGHOUT
THE UNITED KINGDOM
AND THE WORLD.

BARRETT & ELMERS, 9 Dacre Street, Westminster, LONDON, S.W.

EUGENE GERAUT & CO.



SELTZOGENES.

First introduced by EUGENE GERAUT & Co. in 1853.

3-pint Size, Wire, 13/0; Cane, 13/6
5-pint " " 18/0; " 19/0
8-pint " " 30/0; " 32/0

Strongly silver-plated top, 5/ each extra.
8-pint size, strongly silver-plated, richly decorated porce-
lain stands, 30/ each; 5-pint size, ditto, ditto, 38/ each;
8-pint size, ditto, ditto, 48/ each.

Our well-known Seltzogenes are improved yearly, and have
already stood a public test of upwards of Twenty Years,
and are acknowledged as THE VERY BEST.

POWDERS FOR THE ABOVE:—3-pint, per dozen boxes, 22/;
5-pint, ditto, 38/; 8-pint, ditto, 65/.



SYPHONS.

Clear or coloured glass, pure ENGLISH
BLOCK TIN TOPS, with piston or cap.

22/6

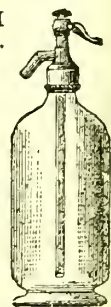
per dozen, for quantities of not less than
one gross.

25/ per dozen, for less than one gross.

Packing in Cask, 5/ per gross.

The Name marked on the metals free of charge for
quantities of not less than one gross.

The Name engraved with Trade Mark, from 1/6 to 2/6
per dozen extra.



LARGE DISCOUNT.

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BOURNE WATER,

THE PUREST IN ENGLAND.

R. M. MILLS & CO.,
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Manufacture all kinds of AERATED WATERS from this Celebrated Artesian Spring.

DR. ANDERSON'S AERATED "TISSUE PHOSPHATE" TONIC WATER,

An Aerated Tonic Beverage, containing all the Mineral Aliments of Nutrition, and assisting Digestion
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Pure, Agreeable, Pleasing, and Invigorating Beverage, perfectly free from all Contamination.

Retail Price 4/6 and 8/ per doz Sold by their Agents throughout England. Price, with Descriptive Pamphlet, upon application.

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HIGHEST AWARD,
GOLD MEDAL,



SYDNEY, 1879.

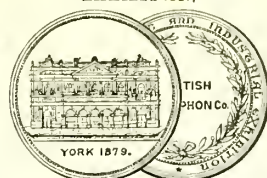
HIGHEST AWARD, THE MELBOURNE, 1880-1. BRITISH SYPHON

MANUFACTORY,

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PRIZE MEDAL,
FINE ART AND INDUSTRIAL
EXHIBITION.



YORK, 1879.

SYPHONS.

SHORT LEVERS 22/6 } per doz.
LONG " 24/ } net.
White, Blue, Amber, or Green Bottles—
Cylindrical or Oval shaped.

Silver Plated from 8/ per doz. extra.

Name stamped on metal tops, free for
orders of one gross.

Name and Trade Mark en-
graved on the Bottles by the
Acid Process, from 1½d. to 2½d.
each extra.

Each Seltzogene and Syphon thoroughly tested before sent out.
ALL METAL WARRANTED FREE FROM LEAD.

SELTZOGENES.

WIRE.		CANE.	
3 pint size....	13/	3 pint size....	13/6
5 " " " " "	18/	5 " " " " "	19/
8 " " " " "	30/		

SILVER PLATED TOP, 5/ extra.

" " " " " WIRE, 5/
Drip Catchers of various patterns.
Liberal Discount for Quantities.

IMPORTANT.

In ordering Seltzogenes distinctly state
that you require the "LION
and SHIELD" brand, and see
that you get it, as all our ap-
paratus are stamped thus (L & S)
and guaranteed PERFECT
and of first-class workman-
ship.



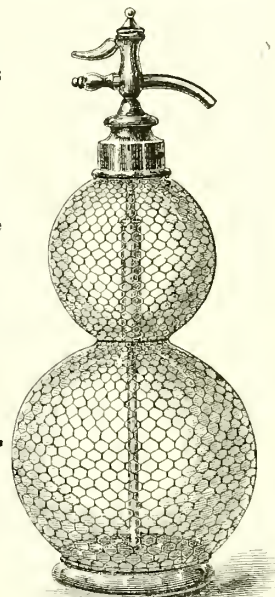
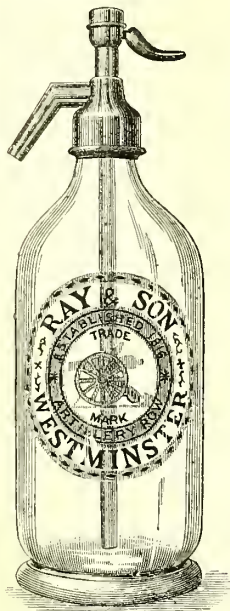
SODA WATER MACHINERY.

NEW and IMPROVED CONTINUOUS APPARATUS,
with One or Two Pumps.

GENERATORS, WASHING VESSELS, GASOMETERS, ETC.

SYPHON FILLING MACHINES	£5 10 0
SYRUP DOSING MACHINES	7 10 0
SYPHON FILLERS and SYRUPERS COMBINED	10 15 0

ESTIMATES ON APPLICATION.



CELEBRATED D. FÈVRE SELTZOGÈNES & POWDERS

For immediate production of Soda Water, Eau de Vichy,
Sparkling Lemonade, and Aerated Wines.

D. FÈVRE, 398 RUE ST. HONORÉ, PARIS,

Sole Inventor and Proprietor of the Article and Name "SELTZOGÈNE,"

THESSIER-FÈVRE, Son-in-Law, Manufacturer.

WHOLESALE PRICES.

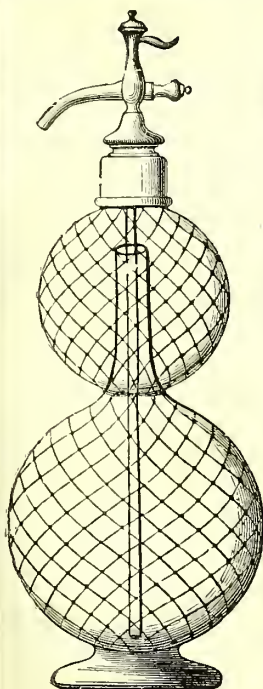
Celebrated		3 pint, wire covered		12s. 0d. each.	} Liberal discount allowed
D. Fèvre Seltzogene.		3 pint, cane covered		12s. 6d. "	
		5 pint, wire covered		18s. 0d. "	
		5 pint, cane covered		19s. 0d. "	
		8 pint, wire covered		30s. 0d. "	
Case and Packing	12 Seltzogenes, 3 pint size	...	4s. 0d. net.	
" "	12 " 5 "	...	5s. 8d. "	
" "	6 " 8 "	...	9s. 8d. "	
Celebrated		3 pint, per doz. boxes of 12 charges,		24s. 0d.	} Liberal discount allowed
D. Fèvre Powders		5 " " "		36s. 0d.	
for the Seltzogenes.		8 " " "		60s. 0d.	
Pure Tartaric Acid and		3 pint, per doz. boxes of 10 charges,		20s. 6d.	
Bicarbonate of Soda		5 " " "		30s. 6d.	
in the highest state of perfection.		8 " " "		45s. 2d.	

EXTRA:—Taps, Tubes, Valves, Washers, &c.

DIRECTION FOR REPAIRS.

DRIP CATCHERS, FITTINGS, MEASURES, &c.

ALL MY GOODS ARE TESTED.
ILLUSTRATED CATALOGUE FORWARDED FREE.



TRADE MARK.

D. Fèvre

REGISTERED.

J. H. CUFF'S MINERAL WATERS,

Atkinson St., Deansgate,
MANCHESTER.

ESTABLISHED IN 1801.

SODA WATER (ordinary)

SODA WATER B.P.

SELTZER WATER

LITHIA WATER

POTASS WATER

15 grs., 20 grs., & 30 grs.

(each half-pint)

LITHIA WITH POTASS WATER, &c., &c.,

Supplied in ordinary and half-sized bottles and in syphons.

Cuff's Waters are prepared expressly for a High-class
Family Trade.

PRICES MOST REASONABLE.
LIST FREE ON APPLICATION.

CARRIAGE PAID ON FULL GOODS
AND RETURNED EMPTIES.

Cuff's Waters give universal satisfaction to Dealers and
Consumers alike. Try them!

NEW AND IMPORTANT DISCOVERY.

GINGER ALE

FROM PURE JAMAICA GINGER.

The difficulty of using Ginger in the Manufacture of "Ginger Ale," and at the same time having a CLEAR and SPARKLING DRINK, has, after much labour and expense, been thoroughly overcome by

Messrs. HARSTON & CO., of LEEDS,

And they are now able to place before the public a BRIGHT and SPARKLING DRINK, made purely from genuine Ginger Root.



THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. Has wonderful nourishing properties.

THE ROYAL YORKSHIRE GINGER ALE,
From Pure Jamaica Ginger. Restores circulation; is warm and
comforting.

THE ROYAL YORKSHIRE GINGER ALE
From Pure Jamaica Ginger. Is Non-intoxicating.

THE ROYAL YORKSHIRE GINGER ALE
From Pure Jamaica Ginger. For railway travelling, driving, or
exposure to cold.

ABSOLUTELY PURE.

See Analysis by Drs. A. H. HASSALL, M.D., and OTTO HEHNER, F.C.S.

HAY'S SOLUBLE ESSENCE OF JAMAICA GINGER

(GUARANTEED PURE AND FREE FROM CAPSICUM)

TRADE PRICE, 5s. per lb.; 12 lbs. and upwards, 4s. 6d.

Highly adapted for the manufacture of *Transparent Aërated Waters*, and
for all *Dietetic, Medicinal, and Pharmaceutical Purposes*.

HONOURABLE MENTION,
INTERNATIONAL FOOD EXHIBITION,
AGRICULTURAL HALL, LONDON,
OCTOBER, 1880.

Medical and other Opinions on the Soluble Essence:

"Singularly free from Resin."—*The Lancet*.

"It is a pure, elegant preparation."—*Medical Times and Gazette*.

"It is a pharmaceutical desideratum."—*The Chemist and Druggist*.



THE COMPOUND ESSENCE

(GUARANTEED PURE AND FREE FROM CAPSICUM).

This Essence imparts with the GINGER a PECULIARLY FINE FRUITY
FLAVOUR and AROMA.

TRADE PRICE, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

THE COMPOUND FORTIFIED ESSENCE

Specially adapted for the Manufacture of the FINEST

GINGER ALE.

This Essence imparts the fullest amount of PUNGENCY with the FINE
GINGER AROMA and FRUITY FLAVOURS of the LAST-MENTIONED
ESSENCE.

TRADE PRICE, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

HAY'S GINGER ALE ESSENCE

HIGHLY CONCENTRATED.

This Essence is a complete Bouquet of the finest Ginger, Lemon, and other
flavours, in a highly concentrated state.

TRADE PRICE, 9s. per lb.; 12 lbs. and upwards, 8s. 6d.

GINGER ALE EXTRACT

Supplies Pungency, Aroma, Colouring and
Flavouring.

Price 4s. 6d. per lb.; 12 lbs. and upwards, 4s.

PREPARED BY

W. HAY, MANUFACTURING CHEMIST,
4 REGENT'S TERRACE,
ANLABY ROAD, HULL.

AGENTS,

Messrs. HEARON, SQUIRE & FRANCIS,
Wholesale Druggists,

5 COLEMAN STREET, LONDON, E.C.

W. J. BUSH & CO.,

DISTILLERS AND IMPORTERS OF

ESSENTIAL OILS & FRUIT ESSENCES,

SPECIALITIES FOR AERATED WATER & CORDIAL MANUFACTURERS,

ESSENCE LEMON

(Extra Super quality, the only pure Essence imported, made at our Works at Sicily).

ESSENCE GINGER ALE, for WINTER DRINKS.

TONIC ESSENCE, for BITTER WATER.

SOLUBLE ESSENCE LEMON. SOLUBLE ESSENCE GINGER.

SOLUBLE ESSENCE OF PEPPERMINT.

BEWARE OF SPURIOUS IMITATIONS.

W. J. B. & Co. caution the Trade against the so-called Soluble Essences now so frequently offered for sale, which are nothing more than mere Tinctures; and although offered at lower prices, cost 5 or 6 times as much in use, whilst imparting a strong medicated flavour. W. J. B. & Co. further beg to inform their friends that Aerated Drinks—as Pale Ale, Horehound Beer, &c.—made from their Soluble Essences are exempt from Excise regulations.

NONE OTHERS ARE GENUINE.

NEW ESSENTIAL OILS.

OL. DIPTERITIS, Tonquin. OL. SYRINGÆ, Lilac. OL. PELARGONII ANG., English Garden Geranium.

These Oils are very powerful, lasting, and of rich fragrance.

CAUTION.

GUM EXTRACT

(French Cream),

PROTECTED BY ROYAL LETTERS PATENT,

For producing a Permanent Head of Creamy Richness on Ginger Beer, Ginger Ale, Lemonade, and other Aerated Beverages; also on Beers, Ciders, Wines, &c.

2s. 6d. per lb.

TO MAKERS AND VENDORS OF EFFERVESCENT DRINKS,
AND TO THE PUBLIC GENERALLY.

IN the High Court of Justice—Chancery Division—on Thursday, June 10, 1880, before Vice-Chancellor Sir C. Hall, an application was made in the action of Bush v. Young to commit the defendant to prison for disobeying an injunction whereby he had been restrained from selling, imparting, or publishing a recipe, which is an infringement of a certain patent known as "Gum Extract," the property of the plaintiff, which is used in the mineral water trade for giving a creamy head or foam to ginger beer and other beverages; the defendant having published and sold a recipe for the preparation of the same compound under the name of "Compound Fluid of Saphacanium," to be used for the same purpose. The defendant resisted on the ground that the bark used by him was not the same as that used by the plaintiff, being known as "Panama Bark."

The plaintiff, however, proved that this was in fact the same, and the Court granted the injunction. The defendant also threatened to publish the recipe unless it were bought up by the plaintiff.

His lordship made an order that in default of defendant paying the costs, he should stand committed to prison.

All persons infringing the above patent will be proceeded against, and those who give information of such infringement will be liberally rewarded.

W. J. BUSH & CO.,

20-23 ARTILLERY LANE, BISHOPSGATE, LONDON, E.

Sparkling Phosphate

A delicious Nervine Tonic Beverage, Non-alcoholic, Stimulating, Invigorating, Refreshing. The original preparation, containing Hypophosphites. Superior in composition and effect to any other article of its kind. Is the most agreeable aerated beverage extant. Sells well wherever introduced. Bears a good profit.

COMPOSITION CERTIFIED BY PROFESSOR ATTFIELD.

Wholesale Prices in quantities of not less than 1 Gross (for cash):—Half-pint Seltzer Bottles, 2/6 per doz.; retail, 4/-. Small Champagne Bottles, 3/- per doz.; retail, 4/6. Large Champagne Bottles, 5/2 per doz.; retail, 7/6.

2d. per doz. additional in quantities of less than 1 gross.

Delivered free in London by our own Vans. Packed for the country in bin cases of 6 dozen small bottles or 3 dozen large. 1/- per dozen charged and allowed for bottles. Packing case, 6 dozen seltzer, 3/-; 6 dozen small champagne, 3/6; 3 dozen large ditto, 3/. Carriage paid to the country on orders for 6 dozen small or 3 dozen large, if accompanied by remittance including bottles and cases. Full price allowed for bottles and cases if returned free in good condition.

WHOLESALE AGENTS:

LONDON—Messrs. Barclay & Sons; Messrs. W. Best & Sons; Messrs. Herrings & Co.; Messrs. Ingram & Royle, 119 Queen Victoria Street; Messrs. Lynch & Co.; Messrs. S. Maw, Son & Thompson.


BIRMINGHAM—Messrs. Southall Bros. & Barclay. BRISTOL—Messrs. Ingram & Royle. EXETER—Messrs. Evans, Gadd & Co.

Sole Proprietors and Manufacturers, **IDRIS & COMPY.,** Manufacturers of Pure Mineral Waters of every description.

AGINCOURT WORKS, MANSFIELD ROAD, HAVERSTOCK HILL, LONDON, N.W.

SOLD IN SMALL CHAMPAGNE BOTTLES

9d. per dozen allowed for empty bottles when actually received; also 1/6 for large cases and 1/ for small.



REGISTERED

Sparkling Phosphate

A delightful Tonic Beverage containing Phosphates, Iron, &c. Free from Alcohol

Manufactured by Harvey, Reynolds & Co, Leeds

RETAIL PRICES as follows:—

6 dozens (case included)	33/
3 " "	17/6
Per dozen (packing extra if required)	5/6

The increasing demand for first-class substitutes for alcoholic Liquors has induced H. R. & Co. to introduce the above elegant preparation. PHOSFERRADE contains in a most assimilable form the valuable Tonic, Restorative, and Invigorating properties of Iron, Phosphates, &c. Taken with meals it stimulates the appetite and assists digestion. At all times it will be found to be a delightful and grateful beverage, and admirably suited for evening parties or other genial occasions. PHOSFERRADE is strongly commended to the notice of those whose mental and physical powers are over-strained by much brain work.

TRADE TERMS ON APPLICATION to the Sole Proprietors and Manufacturers,
HARVEY, REYNOLDS & CO.,

14 Commercial Street, and 13 Briggate, LEEDS;

Or to the Sole Wholesale Agents for London and the South of England, INGRAM & ROYLE, Queen Victoria Street, London; and Bath Bridge, Bristol.

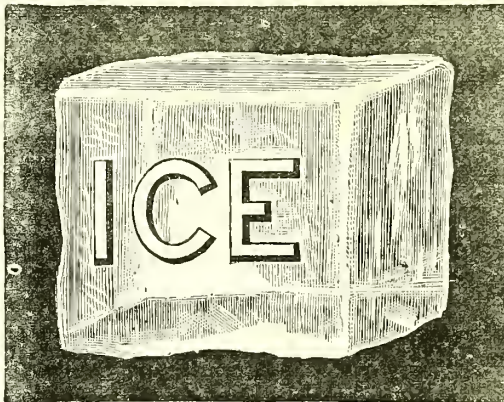
ZOEDONE.

Agents: INGRAM & ROYLE, 119 Queen Victoria St., London, E.C.,
And BATH BRIDGE, BRISTOL.

FOREIGN

Mineral Waters and Zoedone.

FREDERICKSHALL (5 Cases, 6d. per Case less), 24/6 Case, 30 bot.; 34/ Case, 60 1/2-bot.
APOLLINARIS (10 Hprs., 1/- and 1/6 less), 24/ Case, 50 bot.; 36/6 Hpr., 100 1/2-bot. Hampers free.
HUNYADI JANOS (10 Cases, 3/- and 5/- less), 30/- Case, 25 bts.; 50/- Case, 50 1/2-bts.
SELTZER ... 11/- Hpr., 25 bts.
" ... 15/- Hpr., 50 1/2-bts.
PULLNA ... 18/- Case, 20 bts.
" ... 30/- Case, 50 1/2-bts.
VICHY... 31/- " 50 bts.
" ... 27/- " 50 1/2-bts.
CARLSBAD ... 37/- " 50 bts.
KISSENGEN ... 42/6 " 50 "
SCHWALBACH ... 27/6 " 50 "
HOMBURG ... 37/6 " 50 "
WILDUNGEN ... 40/- " 51 "
CARLSBAD SALTS, 1/2-Bots., 20/- per doz.; 1/2-Bots., 40/- per doz.; Bot., 80/- per doz.
ZOEDONE, 5/- per doz., 6-doz. Cases (if 5 Cases, 2d., 10 Cases, 3d., 20 Cases, 4d. per doz. less).



Norway Block Ice.

ORIGINAL BLOCKS ...	1/9 per cwt.
1 cwt. to 2 cwt. ...	2/6 "
2 cwt. to 1 cwt. ...	4d. per lb.
Under 2 cwt. ...	1d. "

Packing and Mats for Original Blocks free 3d. each allowed for Mats if returned.
Present Season's Ice specially fine and extra thick. Low quotations given for quantities taken from vessels while discharging.

PRINTED DIRECTIONS for STORING ICE sent free on application.

W. B. HARRISON,
IMPORTER OF ICE AND
MINERAL WATERS,
6 Bridge Street, Sunderland.

FOREIGN MINERAL WATERS.

FOREIGN LIQUEURS.

FOREIGN WINES.

FOREIGN SPIRITS OF EVERY DESCRIPTION.

ANGOSTURA BITTERS.

APPLY TO

JAMES SMITH & COMPANY, IMPORTERS,
LIVERPOOL: 9 LORD STREET.

NORTH WALES MINERAL WATERS FACTORY, WREXHAM.

J. F. EDISBURY & CO.,

Having purchased the extensive Plant and Machinery from the Zoedone Co. (late R. Evans & Co.), are now Manufacturing First-class AERATED and MINERAL WATERS, SODA, POTASS, LITHIA, SELTZER, LEMONADE, GINGER ALE, THE "EXCELSIOR" TABLE WATER CARBONINE (retailed at 4s. 6d. per doz.), CHAMPAGNE LIME JUICE (equal to Moselle).

Sent out in Bin Cases; carriage paid on one gross. All under the personal supervision of Mr. J. F. EDISBURY, M.P.S.

Price Lists, Counter Bills, &c., free on application.

CITRATE OF MAGNESIA.

Large CASH Buyers can get BEST Terms from

E. B. DIVE & CO., MANUFACTURERS,
MANORVILLE ROAD, UPPER HOLLOWAY, LONDON, N.

AWARDED THE CERTIFICATE OF MERIT AT THE SANITARY EXHIBITION OF GREAT BRITAIN.

A SIX DOZEN CASE, which may be assorted, to any Railway Station for 36s., returned Empty allowed 18s.

A Liberal Discount to the Trade, who should send for Sample Case before ordering elsewhere.



Telegram from Melbourne Exhibition,
May 7, 1881.

To Messrs. Samuel Gulliver & Co.,
Aylesbury.

"TWO FIRST-CLASS AWARDS for your Exhibit, being the Highest Honours obtainable for Mineral Waters. Special reference being made to the Good Quality."

Also Two Second Awards and Honourable Mention—Five Honours in all.

ZOEDONE

A DELICIOUS BEVERAGE.

The **BRITISH MEDICAL JOURNAL** says:—

"We can confidently recommend it to the attention of physicians and others who are occasionally at a loss what to direct their patients to take when parched by feverish thirst or depressed by exhausting ailments—notably in cases where alcoholic stimulants would be prejudicial. We feel that it would be found exceedingly useful in mitigating the discomfort oftentimes experienced by those suffering from the thirst, loss of appetite, and general *malaise* connected with the last stage of phthisis and chronic bronchitis. We would also, from our observations and experience, advise its introduction into clubs, taverns, and places of public amusement, where it would judiciously supersede vinous and alcoholic stimulants, seeing that it contains, as its name implies, life-giving ingredients in a form easily assimilated."

A BRAIN AND NERVE TONIC.

The **LANCET** says:—"ZOEDONE contains the soluble phosphates of lime, iron, soda, and potash, in medicinal quantities. Very efficient and pleasant."

The **MEDICAL PRESS AND CIRCULAR** says:—"Is commendable equally for the style in which it is put up and the delicate flavour which it possesses, and also on account of its special merits as a nerve tonic."

NON-ALCOHOLIC.—STIMULATES BY STRENGTHENING.

CAUTION.—Dealers should be on their guard against numerous imitations of ZOEDONE, put up in the same style and offered as substantially the same article. The composition of ZOEDONE is protected by Letters Patent, and the Zoedone Company will proceed against infringements.

Every Chemist that has introduced ZOEDONE has found a large and regularly increasing sale for it. It is put up in Champagne Bottles, and there is no trouble with empties, as the bottles are included in the price. Customers supplied with Pamphlets for distribution; also a special Circular for medical men stating the formula.

ZOEDONE is admirably adapted for hot climates.

ZOEDONE is supplied on the following Terms, Cash Prices, free on Rails at Wrexham:—

SMALL	Champagnes,	6/6	per dozen (EXPORT,	7/0	per dozen),	in 6	dozen cases.	
"	"	6/8	"	7/2	"	3	"	
"	"	6/9	"	7/3	"	2	"	
"	"	6/10	"	7/4	"	1	"	
LARGE	"	12/0	"	13/0	"	3	"	
"	"	12/6	"	13/6	"	1	"	

Bottles and Packages included.

Application for Trade Terms should be accompanied by Business Card.

WHOLESALE AGENTS:—

LONDON—Allen & Hanburys.
 " Barclay & Sons.
 " W. Best & Sons.
 " Burgoyne, Burbidges, Cyriax & Farries.
 " Corbyn, Stacey & Co.
 " Edwards & Sons.
 " Evans, Lescher & Evans.
 " Hearon, Squire & Francis.
 " Ingram & Royle.
 " Lynch & Co.
 " S. Maw, Son & Thompson.
 " F. Newbery & Sons.
 " Probyn & Co.
 " Savory & Moore.
 " Wright, Layman & Umney.
 ABERDEEN—W. Paterson & Sons.

BELFAST—Grattan & Co.
 BIRWICK—W. Graham, Carr & Son.
 BIRMINGHAM—Southall Bros. & Barclay.
 " Phillip Harris & Co.
 BRADFORD—Harrison, Parkinson & Co.
 BRISTOL—Ferris & Co.
 CHELTENHAM—Joseph James.
 CORK—W. & H. Goulding.
 " T. R. Lester.
 COVENTRY—Wyleys & Co.
 DUBLIN—Hamilton, Long & Co.
 " Johnson & Oldham.
 " A. & R. Thwaites & Co.
 EDINBURGH—Duncan, Flockhart & Co.
 " John Mackay & Co.
 EXETER—Evans, Gadd & Co.
 GLASGOW—The Glasgow Apothecaries' Co.

HULL—Lofthouse & Saltmer.
 LANCASTER—W. H. Bagnall & Co.
 LEEDS—Goodall, Backhouse & Co.
 LEICESTER—John Richardson & Co.
 LIVERPOOL—Clay, Dod & Case.
 " Evans, Sons & Co.
 " Raimes & Co.
 " R. Sumner & Co.
 " Clay & Abraham.
 " Symes & Co.
 MANCHESTER—James Woolley, Sons & Co.
 NEWCASTLE-ON-TYNE—Brady & Martin.
 NICE—J. Daniel.
 NORTHAMPTON—Frederick Kirby.
 PARIS—Hogg, 2 Rue Castiglione.
 YORK—Henry J. Pratt.

Retail Agents whose names are not on the published list should communicate with the Manager.

PATENTEE—DAVID JOHNSON, F.C.S. MANAGER—JOHN MOSS, F.I.C., F.C.S.

Manufacturers—THE ZOEDONE COMPANY (Lim.), Wrexham, North Wales.

LONDON OFFICE: 25 ABCHURCH LANE, E.C.

ZOEDONE BUREAU FOR FRANCE: 7 RUE ROYALE, PARIS.

ZOEDONE BUREAU FOR BELGIUM: 2 RUE DE LUXUM, BRUSSELS.

NOTE.—ALL orders for the Company must be sent to Wrexham.

GOUGH'S GOOD TEMPLAR SPARKLING CHAMPAGNE.

18s. per Dozen Bottles;

22s. per Two Dozen Half Bottles.

*Duty paid in
London, or f.a.b.
Export Ship
there.*

I have appointed **CHARLES KINLOCH & CO.**, Backchurch Lane, London, E., **SOLE AGENTS** for England, Germany, France, Italy, Russia, the English Colonies, and America, for the Sale of my Wine.

JULES DELARUE,

Maruil-sur-Ay, France.

ALL ORDERS MUST BE SENT DIRECT TO MY AGENTS.

C. KINLOCH & CO.'S WHOLESALE LIST OF WINES AND SPIRITS ON APPLICATION.

JEWSBURY & BROWN'S MANCHESTER MINERAL WATERS,

**PURE SODA, SELTZER, POTASH, LITHIA, &c.,
LEMONADE,
GINGER ALE, AND QUININE TONIC.**

Prepared and Bottled specially for Export, and warranted to keep well.

Manufactured with the utmost care and by improved machinery, these productions are recommended for purity and excellence of quality by many leading members of the Medical Profession, and have for many years had a preference by the public; the flavour of the Lemonade and Ginger Ale being procured from the fresh Fruit and Finest Jamaica Ginger, they may be relied upon as furnishing delicious and satisfactory beverages, either for general use or specially for invalids.

The Soda Water is absolutely free from any metallic impregnation, and being by improved machinery highly charged with Carbonic Acid Gas, and each bottle containing a definite and unvarying proportion of Pure Carbonate of Soda, J. & B. have every confidence in inviting a trial from those who have not already patronised them.

The Seltzer, Potash, and Lithia Waters are prepared with the utmost exactitude and the purest ingredients.

The New Quinine Tonic furnishes a pleasant form for the administration of a most valuable restorative, and is refreshing and agreeable.

Ginger Ale (Aromatic) of superior quality, and strongly recommended as a Non-Alcoholic and warm stimulant beverage.

*N.B.—Every Bottle is protected by a distinctive Label, with Name and Trade Mark,
and each Cork is branded.*

Counter Bills and Analytical Reports, with Agents' Names and Addresses, supplied when requested.

A CERTIFICATE OF MERIT, for superiority of quality, was awarded to Jewsbury & Brown at the Exhibition of Sanitary Appliances, at Owens College, Manchester, on the occasion of the Meeting of the British Medical Association, August, 1877.

A CERTIFICATE OF MERIT awarded by the British Sanitary Institute of Great Britain, after a deferred PRACTICAL TRIAL AND EXAMINATION, July 4th, 1879.

JEWSBURY & BROWN, 44 Downing Street, 3 Grosvenor Street, and 113 Market Street, MANCHESTER.



SPECIALLY FOR SUMMER.

LIME FRUIT.

LEMON.

ORANGE.

BLACK CURRANT.

STRAWBERRY.

RASPBERRY.

JARGONELLE PEAR.

PINE APPLE.

SPECIALLY FOR WINTER.

WINTERINE OR

WINTER PUNCH.

GINGER LEMON.

LIME FRUIT CORDIAL

AROMATIC BLACK

CURRANT.

PEPPERMINT.

GINGERETTE.

CLOVE CORDIAL.

By the simple addition of two table-spoonfuls of these Syrups to a tumblerful of hot or cold water, most wholesome and refreshing drinks are immediately prepared, as pleasant to the taste as they are invigorating to the system. For Gazogenes and the Syphon Soda Water Bottles they are admirably adapted. Put into a tumbler a large spoonful of any of the Syrups, and fill it up with the Gaseous Water. They are also largely used for flavouring Puddings, Jellies, Custards, and Blanc-Mange.

These Drinks are specially suitable for the Sick Room, Pic-nics, Weddings, Christmas and Birthday Parties, &c., &c.

TESTIMONIALS.

"We suggest a trial of Beckett's admirable Fruit Syrups, so well fitted both for the dinner table and for juvenile and senior parties."—*Church of England Temperance Chronicle.*

"All Mr. Beckett's Preparations are tastefully bottled and labelled, and their bright appearance makes them ornamental to the shelves of the Confectioner and Temperance Hotel-keeper, as well as to the banquet or dessert table."—*Good Templar Watchword.*

"I like them exceedingly. They deserve to be entitled 'Nature's Own Beverages'; I could not speak more highly of them."—*Rev. Charles Bullock, B.D., Editor of "Home Words," "Our Own Fireside," &c., &c.*

"They make the most refreshing and delicious beverages extant."—*Henry Munroe, Esq., M.D., F.L.S., Hull.*

"They are excellent. The Lime Fruit Syrup is the pleasantest Preparation of Lime I have yet tasted."—*Dr. F. R. Lees, Leeds.*

"I like them better than anything of the kind I have had before."—*James Barlow, Esq., J.P., Bolton.*

"Miss Robinson is quite willing that Mr. Beckett should publish her opinion that the Syrups he supplies are by far the best. All kinds have been supplied at the Soldiers' Institute, Portsmouth."

"I have sold a large quantity of your Fruit Syrups for several years, and have always found them of uniform good quality. At various times I have tried other makers, but have not got any to equal yours. Some I have purchased at cheaper rates, but they were not so economical, being of inferior quality."—*Mr. James Hibberd, Red Star Coffee Tavern, Poole.*

Sold in Bottles, 1s. 9d.; Half-bottles, 1s.

BECKETT'S TONIC DRINKS.

BECKETT'S SYRUP OF ORANGE AND QUININE "is a very good Tonic. I have ordered it to several of my patients, and they all speak very highly of it."—*Dr. Alex. Miller, Edinburgh.*

BECKETT'S SYRUP OF ORANGE AND QUININE. "I have prescribed it as an excellent substitute for Bitter Beer for the last ten years."—*Dr. Norman Kerr, London.*

BECKETT'S SYRUP OF ORANGE AND QUININE promotes the appetite and assists digestion, and at the same time improves the condition of the nervous system. Sold in Bottles, 1/9 and 3/-

EXHILARINE forms a most exhilarating and invigorating beverage by the addition of hot or cold water.

EXHILARINE contains Phosphorus, Iron, Lime, &c. It gives tone to the stomach and strength to the nerves.

EXHILARINE is excellent with gazogenes, makes a fine sparkling beverage, equal to any of the phosphated drinks in the market, at one-fourth the cost. Pints, 2/3; Half-pints, 1/3.

BECKETT'S LIME AND QUININE SYRUP is a warming invigorating tonic and stimulating beverage. It possesses all the medicinal virtues of the Lime Fruit and Quinine in a palatable form. In bottles, 1/3 and 2/3.

BECKETT'S SYRUP OF HOPS is highly recommended as a palatable and refreshing beverage; excellent with Soda Water. In Bottles, 1/3 and 2/3.

SOLE MANUFACTURER—

W. BECKETT, Heywood, Manchester.

Wholesale Agents—Barclay & Sons; Sanger & Sons; Edwards & Sons; Sutton & Co., &c., &c.

BINGLEY'S



SODA WATER.
SELTZER.
POTASH.
LEMONADE.
LITHIA, &c.

MANUFACTURED BY

JOHN BINGLEY, Pharmaceutical Chemist,
NORTHAMPTON.

A copy of Professor Atfield's Report will be forwarded by
post on application.

Caution

W. A. ROSS, the Original Patentee and Maker of
The Celebrated Belfast Ginger Ale, cautions
the Public that the "GENUINE" can only be had at

Ross's Royal Ginger Ale
AND
Aerated Water Works Belfast.

NAME ON CORK, CAPSULE, AND LABEL REGISTERED.

EXPORT ORDERS HAVE SPECIAL ATTENTION.

"ABSOLUTELY PURE."

SEE ANALYSIS. Sent post free on application.

ELLIS'S



REGISTERED.

CORKS BRANDED "R. ELLIS & SON, RUTHIN," and every
label bears their Trade Mark. Sold everywhere, and wholesale of

R. ELLIS & SON, RUTHIN, NORTH WALES.

London Agents: W. BEST & SONS, Henrietta St., Cavendish Square.

Soda, Potash,
Seltzer, Lemon-
ade, also Water
without Alkali.
For GOUT,
Lithia Water, &
Lithia &
Potash Water.

RUTHIN

WATERS.

T. & F. J. TAYLOR'S



AERATED WATERS,
Newport Pagnel.

ESTABLISHED 1835.

SODA, POTASH, SELTZER, AERATED (without
Alkali), and LITHIA WATERS,
LEMONADE AND GINGER ALE.

Each Bottle is protected by a Label bearing the Signature
of the Firm.

Purity and Excellence of the Water certified by Analysis
by Professor ATFIELD, Ph.D., F.C.S.

HAY'S GINGER CHAMPAGNE.

A DELICIOUS
NON-
INTOXICATING
AND
INVIGORATING
TONIC
BEVERAGE.



PRICE,
IN HALF-PINT
CHAMPAGNE
BOTTLES,
5s. 6d.
PER DOZEN.

This SPARKLING, EXHILARATING, and REFRESHING DRINK, while being far more agreeable in bouquet and flavour than the FINEST CHAMPAGNE WINE, is, at the same time, unlike it, FREE from ALCOHOL.

It is strongly recommended both for Juveniles as well as for Adults, as the most wholesome stimulating beverage that has hitherto been introduced, and should be in every household during all seasons of the year.

"One of the most delicate and wholesome drinks in the market. The creaminess, colour, and even the aroma of champagne are precisely imitated, and the after flavour of the Ginger Essence is peculiarly grateful."—*Medical Press*.

"Made by Mr. Hay, of Hull, with his well-known SOLUBLE ESSENCE OF JAMAICA GINGER, takes rank as a PURE, WHOLESOME, STIMULATING, and NON-ALCOHOLIC beverage."—*British Medical Journal*.

"So much does it please the palate that one feels inclined to open a second bottle after having drunk the first. This is a beverage which the practitioner can safely recommend."—*Medical Times and Gazette*.

"Mr. Hay, of Hull, deserves abundant success with his GINGER CHAMPAGNE. It is an exhilarating, wholesome, and very agreeable beverage."—*The Chemist and Druggist*.

"Creamy, sparkling, and pleasantly aromatic; is in our opinion the best thing of its kind yet introduced."—*Eastern Morning News*.

SOLE MANUFACTURER—

W. HAY, Chemist, &c.,
4 Regent's Terrace, HULL.

WHOLESALE AGENTS—MESSRS. INGRAM & ROYLE,
119 QUEEN VICTORIA STREET, LONDON, E.C.

Hunyadi János

CAUTION.—Circumstances which have come to the knowledge of Andreas Saxlehner, Buda Pest, Sole Proprietor of the Hunyadi János Spring, compel him to WARN the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the LABEL the name of "THE APOLLINARIS COMPANY (LIMITED), London."

LAMPLOUGH'S EFFERVESCENT PYRETIC SALINE.



HAVE IT IN YOUR HOUSES AND TRAVELS, USING NO OTHER SALINE; it gives instant relief in Headaches, Sea or Bilious Sickness, and quickly cures the worst form of Eruptive or Skin Complaints. The various diseases arising from Constipation, the Liver, or Blood Impurities, Inoculation, the results of breathing air infected with Fevers, Measles, or Smallpox, are frequently prevented and certainly cured by its use.

The sale of these Saline Salts having greatly increased during the past few years, I beg most cordially to thank those who sell and recommend the same, and also to inform intending dealers that they will find Messrs. BARCLAY, EDWARDS, MAW, NEWBERRY, SANGER, SUTTON, and the Wholesale Houses generally, ready to supply their wants. This Advertisement is found useful in consequence of the trouble, cost, and inconvenience in the keeping and collection of numerous small accounts. *Note.*—The Name, Trade Mark, Labels, Wrappers, &c., are all Registered and Entered at Stationers' Hall. 113 HOLBORN HILL, LONDON, E.C.



SPECIAL NOTICE.—Medical Gentlemen having fever cases, and desirous of trying the Saline, can have a single bottle at wholesale prices by sending their cards.

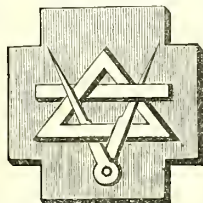
THE CONDY'S FLUID CO., 7 Falcon Street, London.

BEWARE OF MEAN AND ACTIONABLY FRAUDULENT IMITATIONS OF OUR FIRM AND GENUINE PRIZE MEDAL LABELS, WITH FICTITIOUS ADDRESSES.

"VICTORIA" OFNER MINERAL BITTER-WATER.

THE BEST NATURAL APERIENT.

TRADE MARK.



As a safe, ordinary, and gentle aperient,
In inflammation and congestion,
In rheumatic and gouty disorders,
Against undue tendency to fat,
Against hæmorrhoids,
In bilious attacks and disorders of the liver,

During pregnancy and in many female diseases,
For habitual constipation,
In Organic Diseases resulting from fatty degeneration,
To remove the consequences resulting from excess in diet, &c.

The Proprietors of this Natural Spring of Laxative Water are desirous of bringing the leading features before the Medical Profession. The advantages specially claimed are, that it contains a larger amount of valuable active aperient solids than any other bitter water previously in vogue with the public, or prescribed by the faculty, and notwithstanding its rapid action as an aperient, it produces no uneasiness in its effects. It will be seen from the analytical data (below) of eminent Professional Chemists of England and the Continent, that this water contains nearly double the amount of Magnesia found in any other Bitter Water, hence it is entitled to be distinguished as a "SPECIFIC MAGNESIUM BITTER WATER."

	Analysis of Prof. H. E. ROSCOE, F.R.S., Owens College, Manchester.	Special Analysis of Prof. M. BALLO, Chemist of the City of Budapest.	Analysis of Dr. G. L. ULEX, Official Chemist of the City of Hamburg.
MAGNESIUM SULPHATE ..	32.8107	32.3800	33.60
SODIUM SULPHATE ..	17.1693	20.9540	19.55
POTASSIUM SULPHATE ..	0.4407	0.8105	1.28
CALCIUM SULPHATE ..	2.3304	1.6020	1.33
SODIUM CHLORIDE ..	1.7708	2.2431	2.28
SODIUM CARBONATE ..	1.1884	0.4980	2.10
ALUMINA ..	0.0108	0.0229	0.3
SILICA ..	0.0587	0.0444	0.6
PHOSPHORIC ACID ..	Trace	Trace	Trace
SUMMARY OF TOTAL SOLUBLE CONSTITUENTS ..	55.1798	58.0549	60.23
Do. Do. FOUND ..	55.7250	58.156	..
DIRECTLY ..	..	..	..
SPECIFIC GRAVITY AT 17°C.	1.0534 AT 17°R.	1.05362 AT 14°R.	1.055

*Soluble Constituents and Sulphate of Magnesia in
"Victoria Bitter Water," as compared with
other Mineral Waters.*

	Soluble Constituents.	Sulphate of Magnesia.
VICTORIA Bitter Water	55.77	32.87
Rákóczy	53.53	23.06
Franz Josef	52.29	24.78
Hunyady László	51.07	24.20
Hunyady János	41.73	18.44
Königsbitterquelle	37.55	16.68
Elisabeth	26.29	8.04
Püllnaer Bitterwasser	32.72	12.12
Friedrichshaller	25.29	5.15
Saidschlitzer	23.21	10.96

Retail Prices:—Litres, 1/6 per bottle; Half-Litres, 1/- per bottle.

Cases are free and contain either 25 Litre Bottles or 50 Half-litre Bottles. May be obtained of any Chemist or Patent Medicine Vendor in the United Kingdom.

THE "VICTORIA" NATURAL BITTERWASSER OF BUDAPEST, HUNGARY.

Wholesale Depot for England and Colonies:—92 & 93 Great Russell Street (corner of Charlotte Street), London, W.C.

10,000 CIRCULARS OR PRICE LISTS

CAN BE DISTRIBUTED WITH THE

JULY ISSUE OF THE "CHEMIST & DRUGGIST."

For Terms, please apply early to the Publisher, 44a CANNON STREET, E.C.

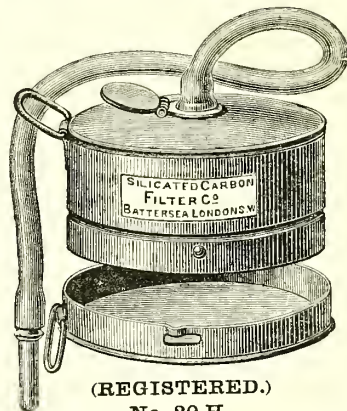
NOVELTY.

SILICATED CARBON POCKET FILTER,

IN GERMAN SILVER, NICKEL-PLATED.

Retailed at FIVE SHILLINGS each.

Designed by
MAJOR FRASER,
of the
ROYAL ENGINEERS,
especially
for Officers' Kits.
Weighs only 8 ounces.



(REGISTERED.)
No. 20 H.

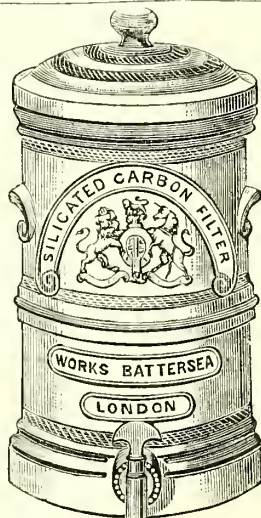
It has been approved
by the
Authorities at the
Horse Guards, and has
been largely
used in the Afghan and
Zulu Expeditions.

Sample sent free by Post on receipt of FOUR SHILLINGS.

DOMESTIC

Made in cream-coloured Stone-ware, fitted with the Silicated Carbon Media, complete with Cover and Silver-plated Tap.

All sizes of this pattern can now be had with Ice Compartment, which renders this Filter the most perfect of Refrigerators.



FILTER, NO. 27.

PRICES.

With Ice
Compartment.

No. O, capacity $\frac{1}{2}$ gallon	10s. 6d.	
No. A, " 1 "	14s. 6d.	... 17s. 6d.
No. B, " 2 "	21s. 0d.	... 25s. 0d.
No. C, " 4 "	32s. 0d.	... 36s. 0d.
No. D, " 6 "	42s. 0d.	... 48s. 0d.
No. E, " 8 "	52s. 0d.	... 60s. 0d.
No. F, " 12 "	70s. 0d.	... 80s. 0d.

MAIN SUPPLY FILTER, NO. 40.

SPECIALLY ADAPTED FOR
Mansions, Schools, Hospitals, Public
Institutions, Breweries, Distilleries,
Soda Water Manufactories,
Dye Works,

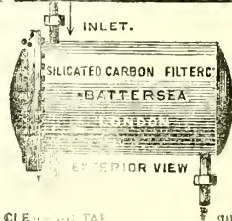
And all other Establishments where large quantities of

PURE WATER

Are required.

The ordinary Sizes kept in Stock are as follows :—

A, $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch pipe	£6 6s.
B 1-inch pipe	£9 9s.
C, $1\frac{1}{2}$ -inch, $1\frac{3}{4}$ -inch pipe	£15 15s.
D, 2-inch pipe	£26 5s.



This Filter is extremely simple in construction, and can be either connected with a Cistern or attached to the Main Service Pipe. It requires no attention beyond an occasional opening of the Cleansing Tap, and will deliver a supply of purified water at a rate of 50 to 1,000 gallons per hour, according to size.

Special Contracts entered into
for Large Works, Institutions,
&c., &c.,

FOR PURIFYING THE WHOLE OF THE WATER SUPPLY OF A BUILDING BEFORE USE.
Ensuring Rapid and Perfect Filtration, at either High or Low Pressure.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

SILICATED CARBON FILTERS.

SYPHON FILTERS FOR TRAVELLERS.

By means of these Filters pure and perfectly wholesome water may be drunk from any pond or stream by simply immersing the Filter therein and drawing the water through the tube by suction.

Each of these portable Filters may be



No. 20.

used as a Syphon by placing it in a vessel of water, then drawing the water by the mouth, and allowing the flexible tube to hang over the side below the Filter. When once set in operation their action is continuous.

They are readily cleaned from sedimentary matter by merely blowing through the tube, and brushing the surface of the filtering medium.

- | | |
|--|-------|
| A.—Pocket Filter, 2½ inches diameter, in porcelain, with glass mouthpiece, in decorated metal box | s. d. |
| B.—Ditto, 3½ inches diameter, in best stoneware | 2 6 |
| Ditto, " " with silver-plated tap | 5 0 |
| C.—Emigrant's, 5 inches diameter, with silver-plated tap | 7 0 |
| G.—Pocket Filter, for carrying over shoulder, as supplied to the Forces in Abyssinia and in Zululand, and to the Ashantee Expedition | 12 0 |
| H.—Ditto, nickel-plated, designed by Major Fraser, R.E., and specially recommended by the Horse Guards for Officers' kits | 3 6 |
| | 5 0 |

TABLE FILTER, NO. 24.

Made of stout glass, in 1, 2, and 3 pint sizes, the filtering medium being securely fitted into the bell-funnel, so that it is not liable to become loose, or to allow unfiltered water



to pass. This Filter is peculiarly suited for the Bedroom and for Table use, affording a ready and simple means of obtaining at any time freshly-purified water.

PRICES.

O, 2s. 6d.; A, 4s.; B, 5s. 6d.
Engraved Vine Pattern—O, 3s. 6d.; A, 5s. 6d.; B, 7s. 6d.

POROUS TERRA COTTA FILTER, NO. 29.

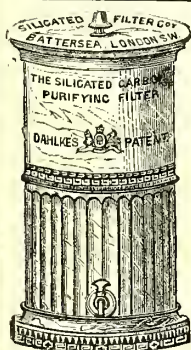
Shape of this Filter as Fig. No. 24.

O, 2s. 6d.; A, 4s.; B, 5s. 6d.

SILICATED CARBON BLOCKS.

2 in., 1s. 6d.; 2½ in., 2s. 6d.; 2¾ in., 3s.; 3½ in., 4s.; 4¾ in., 5s. 6d. ea.

SPECIAL QUOTATIONS FOR QUANTITIES.



DINING-ROOM FILTER, No. 22.

MADE IN MARBLED CHINA.
Size A holds about two gallons; size B, five gallons.

PRICES.

- | | |
|--|-------|
| A | 35s. |
| B | 80s. |
| A, with Ice Compartment (New Patent) | 42s. |
| B, with Ice Compartment (New Patent) | 100s. |

The large size (B) is specially adapted for Hotels, Refreshment Rooms, Luncheon Bars, &c.

REFRIGERATOR FILTER, NO. 25.

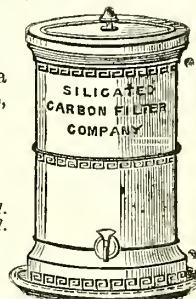
Made in Porous Terra-Cotta Ware,

Which acts with remarkable power as a cooler, and renders this Filter invaluable, especially in Tropical Climates,

AFFORDING A
COOL DRAUGHT OF PURE WATER.

Price, with Silver-plated Tap 31s. 6d.
Ditto, ditto, with Ice Compartment 42s. 0d.
Capacity Two Gallons.

Specially adapted for Tropical Climates.



SILICATED CARBON (Regd.) ASCENSION FILTERS.

The most efficient known Filter

PRICES:

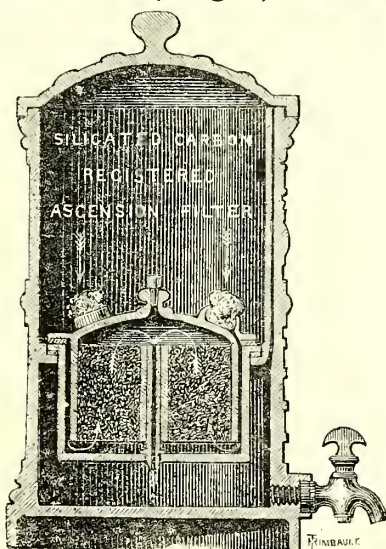
No. 38.

- | |
|-----------------|
| 1 Pint, 2 6 ea. |
| 2 " 4/- |
| 3 " 5/6 |

The Water passes upwards through the Silicated Carbon in the direction shown by the Arrows in the Drawings.



NO. 38.



NO. 37.

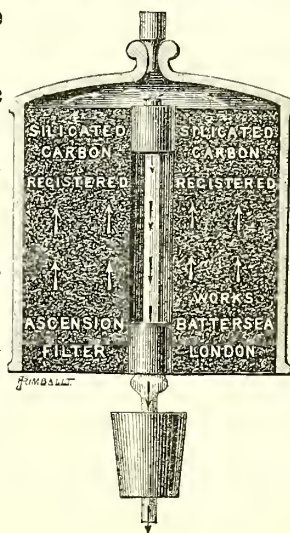
for Table and Domestic Use.

PRICES:

No. 37.

- | |
|------------------|
| 1 Gal., 18 - ea. |
| 2 " 26/- |
| 4 " 38/- |

The inner blocks being movable, by attaching an india-rubber tube they can be converted into Pocket or Travelling Filters.



SECTION OF NO. 38.

WRITE FOR FULL LISTS TO THE

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

**THE
GENERAL MINERAL WATERS SUPPLY ASSOCIATION,
LIMITED,
SUFFOLK STREET, BARON ST., PENTONVILLE, LONDON, N.**

*Managing Director and Secretary—THEODORE ROBERT ANCELL, Esq., late Managing Director of the
Chemists Aerated and Mineral Waters Association.*

The Mineral Waters and Beverages manufactured by this Association are reported by Dr. E. Hassall, L. Cleaver, and other eminent Analysts to possess the composition proper to each description of water, and to be perfectly pure and free from metallic contamination. The machines used are silver-lined, and the water filtered.

The Directors are prepared to appoint ONE AGENT ONLY in each Town, on specially Advantageous Terms.

LONDON AGENTS are supplied with the ordinary Mineral Waters at 1s. 2d. per dozen, delivered free by the Company's own vans.

COUNTRY AGENTS are allowed a reduction of 2s. per gross, and a further reduction of 1s. per gross for Cash with Order.

TERMS—MONTHLY ACCOUNT.

Bottles are charged and allowed for at the rate of 1s. 6d. per dozen. Three dozen Bin Cases, 4s. each. Cash returned for empties.

In addition to manufacturing the ordinary Mineral Waters, the Company are the Sole Manufacturers of **Salicudor** and **Lime Champagne**.

SALICUDOR.—A new Mineral Water for Gout and Rheumatism, containing Salicylate of Potash, bottled in Half-pint Seltzer Bottles. Trade price. **LONDON AGENTS**, delivered free, 2s. per dozen. **COUNTRY AGENTS**, packed in 3-dozen Bin Cases, 1s. 10d. per dozen.

LIME CHAMPAGNE.—A delicious, sparkling, non-alcoholic beverage, bottled in champagne pints. Trade prices, bottles included:—**LONDON AGENTS**, delivered free, 3s. 6d. per dozen. **COUNTRY AGENTS**, cases included, 3s. 10d. per dozen.

GINGER ALE, pure, bright, and sparkling; bottled in champagne pints. Trade price, bottles included:—**LONDON AGENTS**, delivered free, 3s. per dozen. **COUNTRY AGENTS**, cases included, 3s. 4d. per dozen.

Bottles returned, carriage paid allowed for at the rate of 1s. per dozen.

We do not require our Agents to become Shareholders, at the same time we shall be pleased to receive an application for Shares, and can recommend the Shares as a safe and lucrative investment.

THE CONDY'S FLUID CO.,

7 Falcon Street, London.

BEWARE OF MEAN AND ACTIONABLY FRAUDULENT IMITATIONS OF OUR
FIRM AND GENUINE PRIZE MEDAL LABELS, WITH
FICTITIOUS ADDRESSES.

**NEW (1881) SEASON'S FINEST QUALITY
NORWEGIAN COD LIVER OIL**

Specially Prepared and Filtered in the Cold.

NOW ON SALE. LOW QUOTATIONS ON APPLICATION.

T. J. SMITH, 10 & 11 NORTH CHURCH SIDE, HULL, Importer.

PURVEYOR TO THE BROMPTON CONSUMPTION HOSPITAL, &c., &c.

EVANS'S EXTRACT OF MALT.

Strongly Recommended in Asthma, Bronchitis, Consumption, Atrophy, Indigestion, and in Stomach Coughs.

(Vide Report of Professor Attfield, Ph.D., F.C.S., Professor of Chemistry to the Phar. Soc. of Great Britain.)

Nov., 1872.—"EVANS'S EXTRACT is incomparably more valuable than any preparation of Malt hitherto offered to the public."

EVANS'S STYPTIC.

The introduction of this Preparation to the notice of the Profession for every variety of bleeding arose from the desire expressed by several eminent Physicians and many patients to obtain an efficient Styptic at a moderate price—Ruspin's celebrated Styptic being so costly.

P. C. SMYLY, M.D., &c., *Surgeon to the Meath Hospital*, writes:—"I find it of the greatest use, in fact, in every instance was equal, if not superior, to Ruspin's Styptic."

T. P. MASON, M.D., &c., *Physician to Mercer's Hospital*, writes:—"The styptic you had the goodness to forward to me, I found highly advantageous in the Hemorrhage of Phthisis."

Circulars of these Preparations may be had on application.

**JOHN EVANS, Chemist to H.R.H. the Prince of Wales, &c.,
49 Dawson Street, Dublin, Ireland.**

AGENTS, U.S.A.—WYETH & BROTHER, PHILADELPHIA.

DAVIDSON'S

CONCENTRATED SWEET RENNET.

Makes delicious Curds and Whey in ten minutes.

Sold in Bottles, 6d., 1s., and 2s. each.

This is the Best and Cheapest Rennet in the market, and Chemists will consult the interests of their customers by keeping it in stock and recommending it. Will keep good for any length of time and in any climate.

PREPARED ONLY BY

JAMES M. DAVIDSON,

Pharmaceutical and Manufacturing Chemist,

DUNDEE.

Wholesale Agents—Messrs. Maw, Son & Thompson,
London.

K O U M I S S :

PREPARED BY THE AYLESBURY DAIRY COMPANY (LIMITED),
31 St. Petersburg Place, Bayswater, W.

KOUMISS is already known to the Medical Profession as a highly Refreshing Effervescent Preparation of Milk, obtained by a natural process of fermentation, of which the chief qualities are:—

- (1) Its agreeable, refreshing, and highly digestible character.
- (2) Its attested and rare powers of nutrition in the most desperate cases of Emaciation, Chronic Vomiting, Dyspepsia from all causes, Gastric Pain and Irritability, and of Debility following Acute, or accompanying Chronic, diseases.
- (3) The avidity and pleasure with which it is drunk by Children, Women, and Men in health and disease, and its remarkable success in allaying vomiting and gastralgia and in restoring the nutrition.

KOUMISS is a form of Milk in which the albumen and casein are partially digested by a natural process, while its abundance of free carbonic acid makes it sedative to the most irritable stomach, so that it has succeeded in numerous cases recorded by medical practitioners where stimulants, beef-tea, and rectal enemata, aided by the most varied pharmacopœial treatment, had alike failed.

KOUMISS has a pleasant slightly sub-acid flavour.
NOTICE.—KOUMISS has hitherto been costly, difficult to procure, and supplied in an inconvenient form. It is now delivered DAILY in SYPHON BOTTLES (from which a small quantity can be drawn as required) by the AYLESBURY DAIRY COMPANY (LIMITED), 31 St. Petersburg Place, Bayswater, W.

PRICE, ONE SHILLING PER SYPHON.

Equal to the contents of a Champagne Bottle. 2s. 6d. charged for each Syphon, which is allowed for on return.
SPECIAL TERMS TO CHEMISTS AND DRUGGISTS, HOSPITALS, AND PUBLIC INSTITUTIONS (WHEN QUANTITIES ARE REQUIRED).

WHEY.

CAREFULLY prepared *without acid*, and free from fat and *casein*; and therefore not objectionable to the most delicate digestion. Whey so prepared contains nearly all the *salts* existing in whole milk. The Phosphates are decreased, but the Chlorides are greatly increased, as will be seen by the following figures:—

Roughly speaking—

WHOLE MILK contains
WHEY

0.75 per cent. of SALTS.
0.60

The Salts in Milk are:—PHOSPHATES 67 per cent.,
CHLORIDES 33 "
100

The Salts in Whey are:—PHOSPHATES 40 per cent.,
CHLORIDES 60 "
100

It is therefore evident that Whey is of immense value to persons whose blood is of poor quality—deficient in Chlorides.

PEPTONIZED MILK.

This is carefully prepared by THE AYLESBURY DAIRY COMPANY according to the formula of Dr. W. ROBERTS, F.R.C.P., F.R.S., &c., and as directed by Dr. R. E. NUNN, U.S.

DR. ROBERTS writes:—"My attention was first turned to the artificial digestion of milk, and I soon found it was possible, by means of pancreatic extract, to digest this important article of food with comparatively little disturbance of its taste and appearance. Milk contains all the elements of a perfect food, adjusted in their due proportions for the nutrition of the body. Two out of its three organic constituents—namely, the sugar and the fat—exist already in the most favourable condition for absorption, and require little, if any, further assistance from the digestive ferments. It is therefore obvious that if we could change the casein of milk into peptone, without materially altering the flavour and appearance of the milk, such a result would go far towards solving the problem of supplying an artificially digested food for the use of the sick."

And DR. NUNN says:—"As an infant diet, both in sickness and in health, I have found nothing to equal the milk peptone among the artificial foods. Time and again I have tried this preparation after having given a fair trial to a number of other foods, all of which produced most unfavourable results, and always its employment was attended with greatest satisfaction. It may be given pure, mixed with lime-water, diluted with barley-water, gum-water, whey, &c.; or, indeed, for invalids it may be mixed with any drink or stimulant which is being administered. Mixed with some of the aerated or mineral waters, it is often much relished, and easily retained when ordinary milk would be rejected; and, when mixed with champagne, is by some invalids considered a most toothsome drink."

ARTIFICIAL HUMAN MILK.

Most carefully prepared as regards proportion of Fat, Casein, and Sugar.

Professor FRANKLAND thus writes:—"The rearing of infants who cannot be supplied with their natural food is notoriously difficult and uncertain, owing chiefly to the great difference in the chemical composition of human milk and cow's milk. The latter is much richer in casein and poorer in milk-sugar than the former, whilst asses' milk, which is sometimes used for feeding infants, is too poor in casein and butter, although the proportion of sugar is nearly the same as in human milk. The relations of the three kinds of milk to each other are clearly seen from the following analytical numbers, which express the percentage amounts of the different constituents:—

	Woman.	Ass.	Cow.
Casein	2.7	1.7	4.2
Butter	3.5	1.3	3.8
Milk-Sugar	5.0	4.5	3.8
Salts .....	.2	.5	.7

It is absolutely necessary that all NEW orders for Peptonized Milk, Artificial Human Milk, and Whey reach the Company's Laboratory not later than MID-DAY, at which hour the preparation of these products is commenced.

THE WHOLE OF THESE PRODUCTS are prepared under the direct supervision of the Pe-ident Analyst to the AYLESBURY DAIRY COMPANY, Dr. VIETH, Fellow of the Chemical Society, Member of the Society of Public Analysts, late Assistant to Dr. Wm. Fleischmann, the Dairy Institute Raden, Mecklenburg.

This Laboratory is at all times open to the inspection of medical men, and Dr. VIETH will be happy to answer questions or afford information to gentlemen of the medical profession. About fifty complete analyses of Milk are made daily, in addition to numerous investigations in the feeding of Milch Cattle.

2nd April, 1881. ROYSTON HOUSE, RICHMOND ROAD, Kew.

The AYLESBURY DAIRY COMPANY have taken a wise step, and a step in advance, in founding a Chemical Laboratory on their Bayswater premises. It is not merely a laboratory where, under their accomplished Chemist, Dr. VIETH, the daily milk supplies can be properly analysed by the newest and best methods; but it is intended for inquiry and experimental research into all matters connected with the chemistry of milk and milk products; and, from personal inspection, I can say that the new milk laboratory is planned, fitted, and conducted in such a complete, judicious, and liberal way as to be certain to confer very large benefits upon science and agriculture, as well as upon the public generally.

A. H. CHURCH, M.A. Oxon., F.C.S., F.I.C.,
Professor of Chemistry at the Royal Academy; Referee for the National Food Collection; for many years Professor of Chemistry at the Royal Agricultural College, Cirencester.

LABORATORY,

79 GREAT TOWER STREET,
LONDON, E.C.

I can testify, as the result of personal inspection, that the Chemical Laboratory established by the AYLESBURY DAIRY COMPANY at Bayswater is completely fitted with every requirement for the accurate analyses of milk, butter, and other kinds of dairy produce, and that the daily analyses, which are being made there by Dr. VIETH, are not only providing ample tests of the quality and purity of the milk supplied by the Company, but are accumulating a large amount of valuable information as to milk products and the feeding of dairy cattle.

G. W. WIGNER, F.C.S., F.I.C.

All communications should be addressed to the SECRETARY,

AYLESBURY DAIRY COMPANY (LIMITED),

31 ST. PETERSBURGH PLACE, BAYSWATER, LONDON, W.,

From whom full particulars can be obtained.

REDWOOD'S PREPARED COCOA PERFECTED,

MANUFACTURED BY A

SPECIAL PROCESS OF PROFESSOR REDWOOD'S

BY THE

WEST LONDON DAIRY SOCIETY, LIMITED.

Manager—T. HORNE REDWOOD.

FACTORY—VERNEY JUNCTION, BUCKINGHAMSHIRE.

TRADE MARK.

MADE FROM THE
FINEST COCOA BEANS,
WITH
MILK AND SUGAR.



PURITY, STRENGTH,
AND
FLAVOUR
GUARANTEED.

UNEXCELLED IN QUALITY BY THE BEST CHOCOLATES.

PACKED IN CASES CONTAINING FOUR DOZEN ONE-POUND TINS.

Carriage Paid on 4 Cases to any Railway Station in England or Wales.

TO BE OBTAINED ONLY THROUGH

MESSRS. BURGOYNE, BURBIDGES, CYRIAX & FARRIES,
16 COLEMAN STREET, LONDON, E.C.

THE "DESIDERATUM" MIXING MACHINE

P. H. BRACHER & CO.,

77 HIGH STREET, WINCANTON.

THE "UNIVERSAL" KNEADING AND MIXING MACHINE.

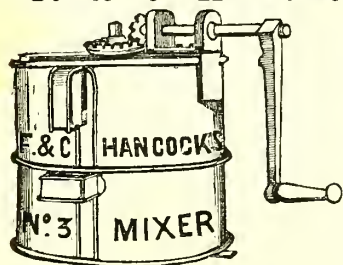
P. PFLEIDERER'S PATENTS.

Write for New Lists. Great Improvements. Perfection achieved.

PAUL PFLEIDERER, 37 FARRINGTON STREET, LONDON, E.C.

PATENTEE AND MANUFACTURER.

F. & C. HANCOCK'S PATENT POWDER MIXING MACHINES.



The mixing is accomplished by revolving discs, and is the only machine that can blend light and heavy powders in equal proportions, grinding coagulated powders in the act of mixing, dispensing with use of sieve or mortar. Is light to work, strong, and durable, and half the price of any other mixer of equal capacity. These machines are made for hand and steam power.

No. 1.—To mix from one to six pounds..	Price £1 0 0
No. 2.—To mix from one to sixteen pounds	£1 10 0
No. 3.—Works with a crank handle, and will mix from one to thirty pounds of powders at one operation. This machine is much liked both by Chemists and Grocers, and can be worked by a boy	£3 0 0
No. 4.—Also works with a crank handle, and will mix 100 pounds of powders at one operation	£6 10 0

To F. & C. HANCOCK, Engineers, Dudley.—Gentlemen,—I can testify to the utility of your Mixing Machine in a Chemist's shop. Having a large quantity of baking powder to put up, I find the compound more uniform, and the work done in one-sixth the time by your No. 4 Mixer, which I have had in constant use for the last ten months.—Yours respectfully, J. HAY, Chemist, Low-Ousegate, York, July, 1880.

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NOTE.—Be careful to see that the words F. & C. HANCOCK are stamped on every Machine.

To be obtained only through Messrs. BURGOYNE, BURBIDGES, CYRIAX & FARRIES, 16 Coleman Street, London, E.C.

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Prepared with the celebrated Cocoa of Caracas, combined with other choice descriptions.

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A Perfectly Pure and Delicious Beverage, prepared exclusively from choice Cocoa Nibs (deprived of the superfluous oil).

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his celebrated Cocoa is an article equally adapted for Invalids and for general consumers. Its delicacy of flavour has rendered it a standard article of extensive consumption.

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A delicious combination of Chocolate with Allen & Hanburys' Pure Extract of Malt. The Extract of Malt promotes in a special manner the digestion of farinaceous foods.

The *Medical Times and Gazette* says:—"It is a highly agreeable beverage, and must contain a large amount of nourishment in a very digestible form."

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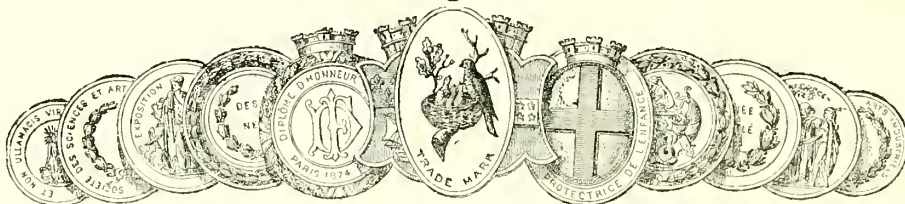
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These incomparable products of world-wide celebrity have obtained the following Prizes :



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The Original Manufacturers of Essence of Beef (green label under wrapper), and other Specialities for Invalids, have

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From their **SOLE ADDRESS**, No. 11
 LITTLE STANHOPE STREET, MAY-
 FAIR, W, and caution the trade to

BEWARE of IMITATIONS.

BRAND & CO'S
SPECIALTIES FOR INVALIDS
 ESTD 1835
 ESSENCES OF BEEF, MUTTON, VEAL & CHICKEN,
 BEEF TEA, TURTLE SOUP & JELLY,
 MEAT LOZENGES &c.
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LLOYD'S "UNIVERSAL" FOOD

(Patent Cooked Malted Farinaceous),

THE NEW FOOD
FOR INFANTS, CHILDREN, AND ADULTS,
BOTH IN HEALTH AND SICKNESS:
REQUIRES NEITHER BOILING NOR STRAINING.

In introducing this New Food to the Medical Profession and the Public, the proprietors do so in the fullest confidence that they are, after repeated experiments, assisted by eminent scientific knowledge, produced a Food that satisfies a long-existing want—a food that is valuable for every-day use, both in health and sickness, and for every condition of life; alike suited to the youngest child, the most robust adult, and the weakest invalid; which, being thoroughly cooked, is quickly and easily made; and being palatable, is attractive, instead of, as so many foods are, repulsive. It also contains the greatest amount of nutriment in the smallest bulk, and is invaluable in all cases of weak digestion, confirmed indigestion, and constipation, as its daily use regulates the natural functions of the body, and renders medicine for this purpose unnecessary.

EXCELLENT for Breakfast.
UNSURPASSED for Supper.
DELICIOUS as Baked Pudding.

NOURISHING as Custard, with
Stewed Fruit of all kinds.
INFANTS thrive Splendidly on it.

CHILDREN grow Strong on it.
ADULTS keep Well on it.
INVALIDS recover on it.

Analytical Report by Professor ATTFIELD, F.R.S., &c., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain.

December 16th, 1880.

"I have made a chemical analysis and microscopical examination of LLOYD'S 'UNIVERSAL' FOOD, a well-mixed and prepared meal. I find it to be a food, rich in all the elements necessary to the formation of flesh, fat, bone, and muscle, and therefore greatly superior to mere starchy 'foods.' Its elements are in a proper form, in a perfectly cooked form, and in natural proportions. The phosphates present equal fully two per cent. of bone phosphate. The nitrogenous or flesh-forming matter amounts to as much as fifteen per cent. (Signed) JOHN ATTFIELD."

Sold by Chemists and Grocers everywhere, in Tins, at 1s., 2s., 5s., & 10s. each; Wholesale by the Manufacturers,

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THE CONSOLIDATED SOUP AND FOOD CO., 23 CASTLE STREET, FINSBURY, LONDON, E.C.

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This delicious Food, prepared by our special process after the result of prolonged experiments, we are now enabled to offer to the public at an exceptionally low price. It will be found invaluable for Invalids, as it corrects acidity, cures indigestion, asthma, phlegm, sleeplessness, &c., acts on the liver and kidneys, giving a tone to the stomach, and thereby restoring the appetite and sound health. For delicate infants (when made thin to pass through feeding bottle) it will be found more nutritious than nurse's milk. One pound of this Food contains more wholesome nourishment than 4 pounds of the best beef or mutton.

Sold everywhere in 1-lb. Tins, at 1/6 per lb., sufficient to make 16 Pints. Wholesale, 12/6 per dozen less usual discount to large buyers.

Berners College of Experimental Science and School of Classical and Technical Education, 41 Berners Street, W., August 20th, 1880.

Analytical Department.

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Gentlemen—This is to certify that I have made a careful examination of the "Valentia" Food, and find it an exceedingly nutritious compound, rich in nitrogenous matters, viz., in Legumen, Albumen, Gluten, &c., combined with an appropriate amount of "Respiratory" Food. It also contains the valuable "Food Phosphates of Potash and Lime" amongst other mineral constituents.

This Food is quite free from any objectionable substance or quality.

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Professor of Chemistry, late of the Royal Polytechnic Institution.

Berners College of Experimental Science and School of Classical and Technical Education, 41 Berners Street, W., August 20th, 1880.

To the CONSOLIDATED FOOD CO.—Gentlemen,—I have carefully examined and analysed the "Valentia" Food prepared by you. 100 parts contain:—

Moisture	...	10.00
Soluble Nitrogenous Organic matter, viz., Gluten, Legumen, and Starchy matters, &c.	...	33.00
Other Nitrogenous Organic substances, viz., Albumen, Fibrine, &c.	...	54.60
Inorganic Constituents, principally Phosphate of Potash and Lime, with Salts of Alkalies	...	2.40
Traces of Soluble Silica	...	100.00

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SOLD IN HALF-PINT PACKETS.

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IS THE BEST.

Is sold in 6d., 1s., and 2s. Tins only, and each Tin bears the Proprietor's "Registered Trade Mark" on the Wrapper, without which it is not genuine.



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Is recommended by the Faculty. See Testimonial.

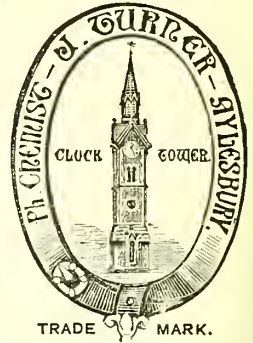
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"Dear Sir,—I have tried your Coffee, like it, and can speak very highly of it.

"Mr. J. Turner."

"Yours truly,

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This Preparation is well got up, gives a good profit, and will only be supplied to one Chemist in each Town.

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INFANT'S FOOD WARMER.

FOOD KEPT WARM 12 HOURS WITHOUT ATTENTION

In the Bottles ready for use.

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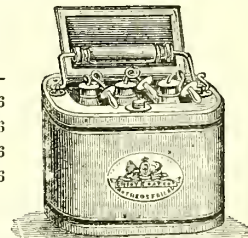
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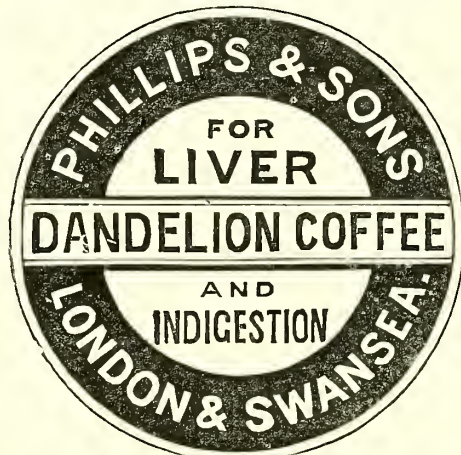
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Cloth Cover . 12/-
Bright Tin do. 16/6
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Copper interiors,
9/6 extra.



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33/ per Dozen Pound Tins.
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(*Ipecac. and Morph., strength as "B. P.")

In Bottles, 1 lb., 2 lbs., 4 lbs., and 7 lbs. For Exportation, in soldered tins, of any size. From EDWARDS, London; through any Wholesale House; and from the Manufacturers,

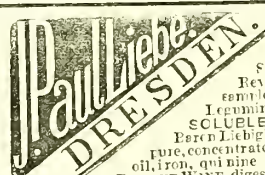
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N.B.—Medical Lozenges of every kind,

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Prize Medal at 10 Exhibitions. First Prize Sydney 79: highest reward for Dietetic Preparation.—LIEBIG'S SOLUBLE LEGUMINOS E, sole soluble Flour for Soups, requires no cooking; cheaper than Revalina, Lentilla, common Leguminosæ, &c.; samples free.—Chocolate with Liebig's Soluble Leguminosæ Cocoa with id.—LIEBIG'S SOLUBLE FOOD for Infants, prepared in vacuum upon Esren Liebig's principles.—LIEBIG'S EXTRACT OF MALTY pure, concentrated, and unfermented; the same with cod liver oil, iron, quinine and iron, lime, hors; lozenges.—LIEBIG'S TYPHIFER WINE, digestive liquor. Export to any climate. Prospectus free on application.—AGENTS—London: F. Newbery & Sons, 1 King Edward Street; A. & M. Zimmermann 21 Mining Lane; Hitchin: Perks & Newell.

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PRESERVES

Milk, Cream, Butter, Eggs, Meat, Fish, Game, Poultry,
IN THE HOTTEST WEATHER.

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GLACIALINE for keeping Invalids' Food.—Is Tasteless, Odourless, and Harmless. Is Invaluable in the House, for it keeps the Infant's and Invalid's Food Unchanged.

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* * A pinch of this Tasteless and Harmless Salt, put into Milk, Beer, Wine, Soup, will prevent a pint from turning Sour. To exemplify how cheap Glacialine is, by simply dissolving the contents of a packet in water one gallon of a perfect Preservative is obtained, which will prevent several cwt. of Meat, Fish, or Game from becoming tainted, or a hundredweight of Butter fresh (without salting it) for the same period.

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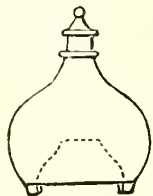
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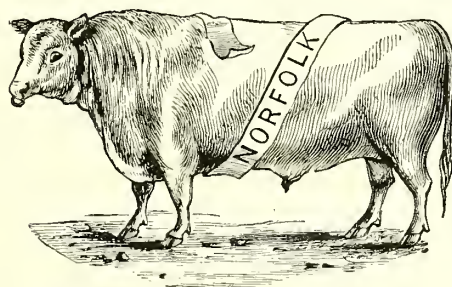
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I milk my Cows and fatten them at same time, feeding them very high summer and winter, seldom keeping them a year. Owing to the high feeding, it is very difficult to keep them in health; and my experience is that not one Cow out of twenty is able to stand the high feeding without taking some slight disorder, such as Fellou, Founder, Swollen Udders, Stoppage of Bowels, Scour, or Loss of Appetite. In all these cases I have found the "Norfolk Condition Drenches" most beneficial.

Using them as a preventive, I mix one packet among four cows' mash once a week.

I have also used your Drenches with my Sheep with good results.

Yours truly, G. N. CALWELL.

More than thirty dozen of Drenches have been supplied to this gentleman during the past year.

The Proprietors have made arrangements for extensive advertising, and will readily support all Dealers who are willing to introduce them; being now all packed in Tins, they will keep any length of time.

Many Chemists are now realising good weekly returns from their sale, where well known.

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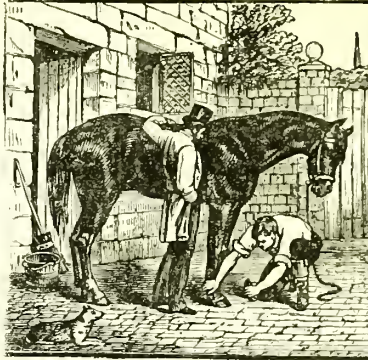
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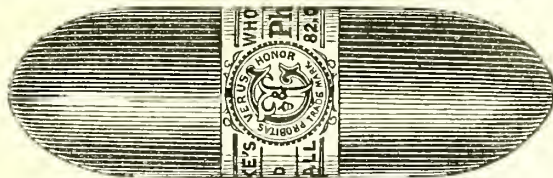
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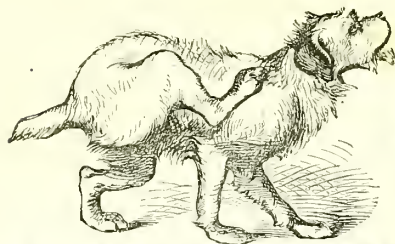
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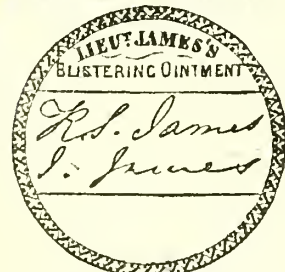
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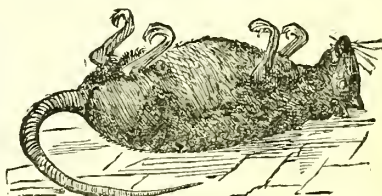
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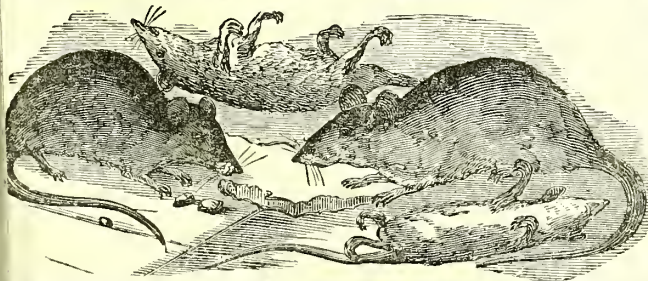
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Mice eat it readily, and
Die on the spot.

Has an immense Sale, and wherever introduced never fails to give satisfaction.—Mice appear attracted to it as by magic, eat it readily, tumble over, and die on the spot. Rats usually die in their runs.—Parties troubled with Vermin may be cleared at once, either from Stacks, Houses, or Ships.

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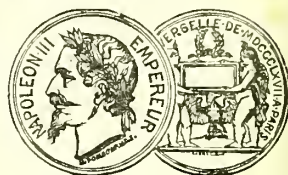


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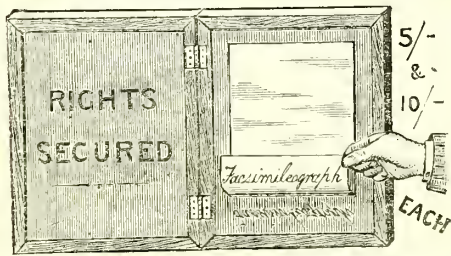
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DELECTABLE		"	"	"		"	"	"
EXTRACT OF MALT.....		"	"	"		"	"	"
GLYCERINE.....		"	"	"		"	"	"
LICHEN		"	"	"		"	"	"
LIQUORICE		"	"	"		"	"	"
MAGNUM BONUM		"	"	"		"	"	"
PECTORALE		"	"	"		"	"	"
PINE (Pâte de Jujube).....		"	"	"		"	"	"
RASPBERRY		"	"	"		"	"	"
ROSE		"	"	"		"	"	"
TAMARIND		"	"	"		"	"	"
VIOLET		"	"	"		"	"	"
VOICE.....	"	"	"	"	"	"		

All the above tins are neatly wrapped ready for sale. The One Pound Tins are returnable at 6/- per doz.

GUIMAUVE, cut into Cubes	}	2/6 PER LB.	36/-	8/-	<i>not supplied</i>
GUIMAUVE PASTILLES					
GUIMAUVE SHEETS.....	}	2/- PER LB.			

PECTORAL FRUIT PASTILLES.

(Registered.)

A bronchial and pulmonic Jujube of
delicious flavour.

*Sold only in round boxes, to retail at 1/-, 1/9,
and 3/- each; 9/-, 16/-, and 27/- per doz.*

MEDICATED THROAT PASTILLES.

Prepared as originally suggested by Dr. PROSSER JAMES.

Lecturer on Materia Medica and Therapeutics, London Hospital; Physician to the Hospital for Diseases of the Throat, &c.

- 1.—**Morphia.** ($\frac{1}{30}$ of a grain.)
- 2.—**Ipecacuanha.** Are readily taken by children. These Pastilles are of the same strength as the B.P. lozenges.
- 3.—**Morphia and Ipecacuanha.** ($\frac{1}{10}$ grain Morph., and $\frac{1}{2}$ grain Ipecac.)
- 4.—**Compound Morphia and Ipecacuanha.** A more active remedy than No. 3. ($\frac{1}{10}$ grain Morph., $\frac{1}{2}$ Ipecac., $\frac{1}{2}$ Squill, &c.)
- 5.—**Opium and Belladonna.** An agreeable substitute for the Troch. Opii B.P., and of the same strength.
- 6.—**Aconite.** Each Pastille equivalent to half a drop of the B.P. Tincture.
- 7.—**Compound Camphor or Voice.**
- 8.—**Chlorate of Soda.** May be taken whenever the throat is uneasy.
- 9.—**Lithia.** An agreeable mode of taking this alkali. Each Pastille contains 1 grain.
- 10.—**Benzoated Voice.** Useful to public speakers, &c. Less active than the Compound Camphor, No. 7.
- 11.—**Chlorate of Potash.** A more agreeable form than the lozenge of the Pharmacopœia.
- 12.—**Chalybeate.** (Pastilli Ferri, A. & H., 1 grain Citrate of Iron.) An agreeable form of lozenge, readily taken by children.

These Pastilles are supplied in 1-lb. Bottles at 36/- per dozen, the Bottles returnable at 6/- per dozen; and in Boxes containing three ounces, to retail at 1/- each, 8/- per dozen.

Circulars showing Doses, &c., for distribution amongst Medical Men, supplied on application.

ALLEN & HANBURY'S,
 PLOUGH COURT, 37 LOMBARD STREET, LONDON, E.C.

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